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# **Existing Water Quality Conditions in the Snoqualmie River Near the City of Carnation: 2003-2004 Monitoring Results**

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April 2005



**King County**

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Water and Land Resources Division

**Science Section**

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# **Existing Conditions of the Tolt and Snoqualmie Rivers Near the City of Carnation: 2003 – 2004 Monitoring Results**

## **Prepared for:**

Carnation Wastewater Treatment Plant Project  
King County Wastewater Treatment Division  
Department of Natural Resources and Parks

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## Citation

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## 1.0. INTRODUCTION

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The City of Carnation has entered into an agreement with King County to construct a new wastewater treatment plant (WWTP) to serve the City and its Urban Growth Area. The wastewater facility will utilize Membrane Bioreactor (MBR) technology to treat up to 0.40 million gallons per day (mgd) through the year 2027. At that time, the plant will be upgraded to approximately 0.44 mgd to accommodate the total planned build-out for the City. Construction is scheduled to start in 2006 with the facility coming on-line in late 2007.

Presently two discharge alternatives are being considered for the treatment facility: an outfall in the Snoqualmie River and a discharge to a wetland. The wetland discharge option would involve the enhancement or creation of wetlands using the highly treated water from the treatment plant.

The river outfall option would discharge highly treated wastewater directly into the Snoqualmie River at the Carnation Farm Road Bridge. The river discharge is a proven technology, as direct outfalls are widely used for discharge of treated wastewater around the world and all municipal treatment plants in the Snoqualmie Basin discharge to the River. Uncertainties associated with the use of the river discharge include any potential impact the treated wastewater could have on Snoqualmie River water quality, which in turn may affect human uses and biological values, such as salmonid use. Because of this uncertainty, King County conducted baseline water quality testing of the Tolt and Snoqualmie Rivers near Carnation between February 2002 and January 2003. This testing program was designed to characterize existing water quality conditions in the Snoqualmie River. However, testing of the Tolt was conducted to better understand the effect that Tolt River water quality may have on Snoqualmie River water quality below its confluence with the Tolt near Carnation.

This document describes the methods, results, and interpretation of the baseline water quality monitoring that was conducted to better understand the potential effects that the discharge of highly treated wastewater may have on the water quality of the Snoqualmie River.

### 1.1 Study Goals

The primary goals of this study include:

- Describe baseline water quality characteristics (chemical and microbiological) of the Snoqualmie River and Tolt River near Carnation to support site selection, discharge method evaluation, the environmental impact statement (EIS) development, and permit application.
- Coordinate with the Carnation WWTP siting, engineering, and EIS teams to support the evaluation of effluent discharge options.

## 1.2 The Snoqualmie River and Watershed

The Snoqualmie River headwaters are located in the central Cascade Mountains. Various tributaries flow westward from the Cascade Crest and join in the vicinity of North Bend to form the mainstem river. (King County, 2004a) The river is fed during the year by snowmelt from the Cascades, groundwater, and stormwater runoff. Therefore, high flow occurs during winter and early spring. Low flows generally occur in late summer when snow melt and storm-water are not providing significant contribution to river flow. (King County, 2002)

The Snoqualmie River has a drainage area of 693 square miles at its confluence with the Skykomish River. Rainfall in the watershed ranges from 40 inches in the lower valley up to 160 inches near the Cascade Crest. (King County, 2004a). The United States Geological Survey (USGS) maintains an automated gauging station near Carnation on the Snoqualmie River. The two-year reoccurrence interval for high flow at this gauge is 35,000 cubic feet per second (cfs) and the hundred year high flow is 70,500 cfs. (King County, 1996). The seven day low flow average with a 10-year reoccurrence interval is 443 cfs. (Joy et al., 1991)

Land use in the Snoqualmie Basin varies with elevation. Much of the land high in the Cascades is within the boundaries of the Alpine Lakes Wilderness area. The lower slopes of the Cascades and foothills are a mix of public and private ownership with much of the area in forest production. The lower valley areas have historically been used in agricultural production. The urban communities are also located in the lower valley and include the cities of North Bend, Snoqualmie, Carnation, and Duvall, and the unincorporated communities of Preston and Fall City. (King County, 2004a).



## 2.0. STUDY METHODS

Study design and methods are described in detail in the sampling and analysis plan for this project (Appendix A). Water quality samples were collected periodically for one year beginning in February 2003 and ending in January 2004. Samples were collected monthly for conventionals (nutrients, chlorophyll, temperature, pH, etc) and bacteria analysis. Water samples for metals and organics analysis were collected quarterly. (Table 1.)

**Table 1. Parameters Analyzed and Frequency of Analysis**

Analyte	Monthly	Quarterly
Ammonia Nitrogen	X	
Nitrate + Nitrite Nitrogen	X	
Orthophosphate Phosphorus (OP)	X	
Silica Silicate	X	
Total Nitrogen	X	
Total Phosphorus (TP)	X	
Total Suspended Solids (TSS)	X	
Alkalinity	X	
Chlorophyll <i>a</i>	X	
Phaeophytin <i>a</i>	X	
Turbidity	X	
Total Organic Carbon (TOC)	X	
Dissolved Organic Carbon (DOC)	X	
Escherichia coli (E. coli)	X	
Fecal Coliforms	X	
pH	X	
Conductivity	X	
Dissolved Oxygen (DO)	X	

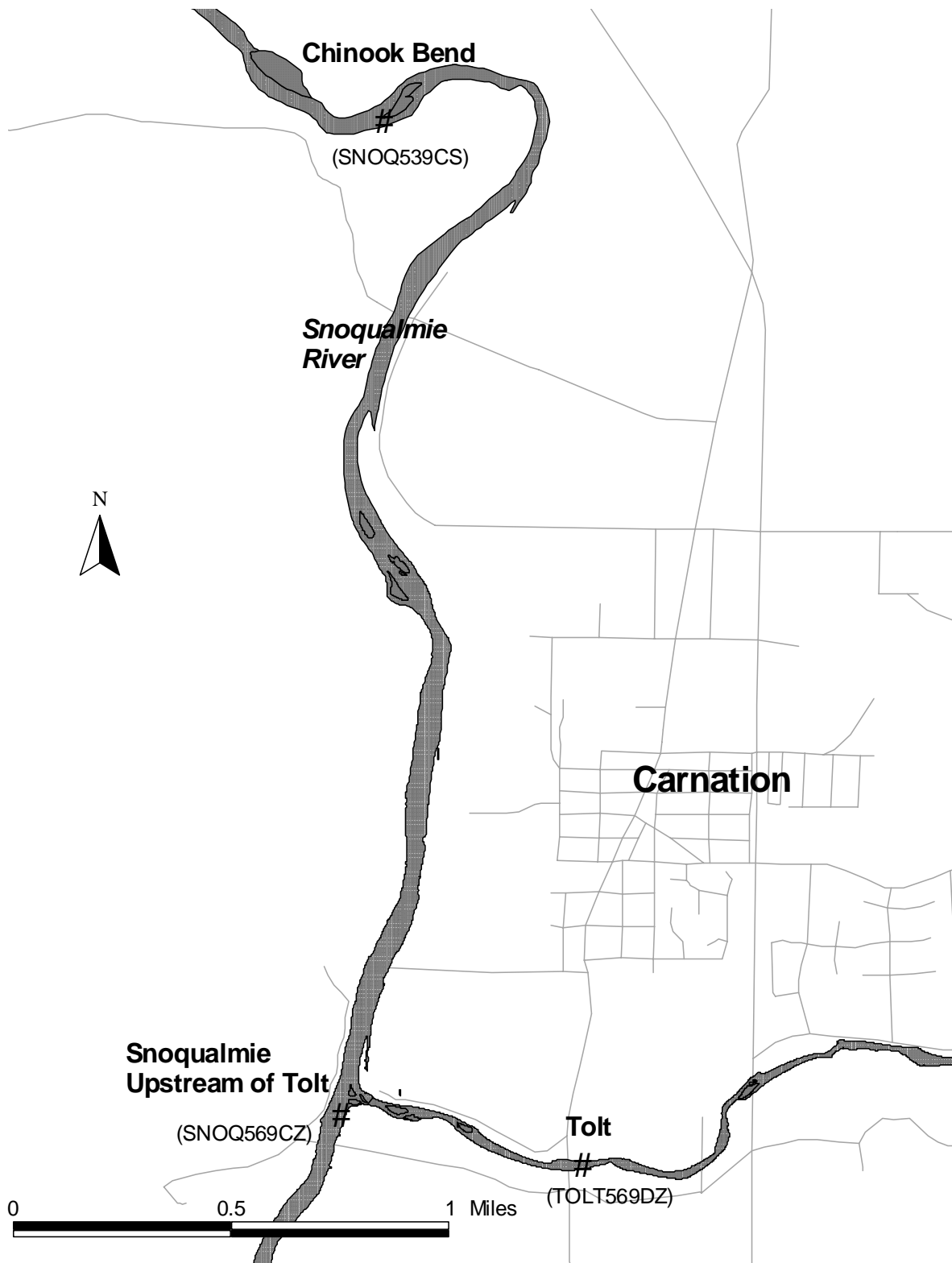
Temperature	<b>X</b>	
Ethinylestradiol - ELISA		<b>X</b>
Estradiol-ELISA		<b>X</b>
Chlorinated Pesticides		<b>X</b>
PCBs		<b>X</b>
Organophosphorus Pesticides		<b>X</b>
Chlorinated Herbicides		<b>X</b>
Aluminum		<b>X</b>
Calcium		<b>X</b>
Iron		<b>X</b>
Magnesium		<b>X</b>
Antimony		<b>X</b>
Arsenic		<b>X</b>
Barium		<b>X</b>
Beryllium		<b>X</b>
Cadmium		<b>X</b>
Chromium		<b>X</b>
Cobalt		<b>X</b>
Copper		<b>X</b>
Lead		<b>X</b>
Molybdenum		<b>X</b>
Nickel		<b>X</b>
Selenium		<b>X</b>
Silver		<b>X</b>
Thallium		<b>X</b>
Vanadium		<b>X</b>

Zinc		<b>X</b>
Mercury		<b>X</b>
Hardness		<b>X</b>

All samples were collected and analyzed by the King County Environmental Laboratory (KCEL) for this study. Staff from the Environmental Services Section of the KCEL collected all samples and transported them back to the KCEL where they were analyzed in the Conventional, Metals, Organics, and Microbiological analytical laboratories.

To spatially characterize the water quality in this area, samples were collected at three stations during each sampling event. One station was located on the Tolt River upstream of the confluence with the Snoqualmie, another was located on the Snoqualmie upstream of the confluence with the Tolt. A third station was located downstream on the Snoqualmie at Chinook Bend. (Figure 1.)

Grab sampling methodology was used to collect samples for this study. Field personnel collected water samples by dipping the sample container into the river by hand. Field samplers approached the station location from downstream and faced upstream while collecting samples to avoid potential contamination. Location of sampling stations was determined by using landmarks, while a handheld Global Positioning System (GPS) unit was used for confirming geographical coordinates. (Appendix A)



**Figure 1. Study Area and Sampling Locations.**

## 3.0. RESULTS

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Complete results for all parameters appear in Appendix B. Quality assurance reports appear in Appendix C. The following provides a summary discussion of these results.

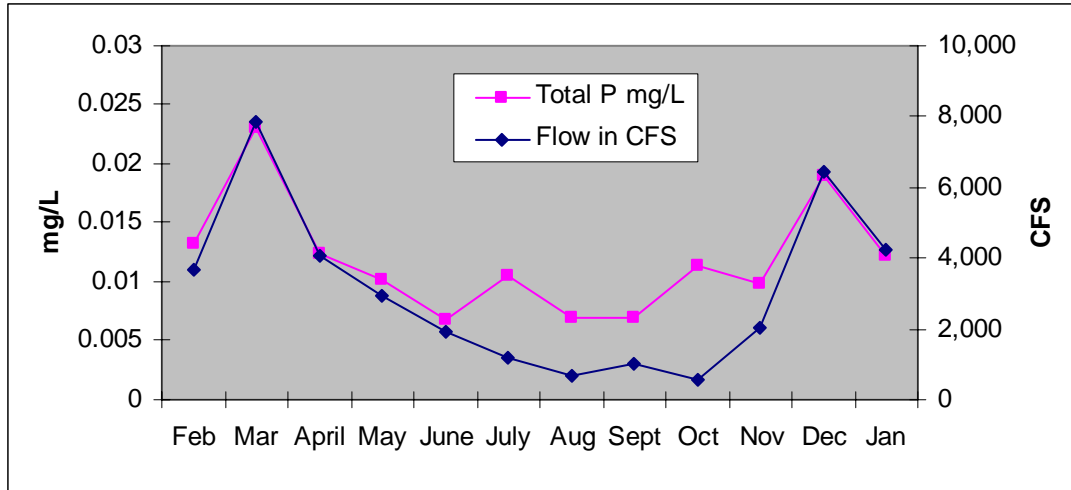
### 3.1 Conventional and Bacteria

Conventional and microbiological parameters analyzed include nutrients, TSS, turbidity, alkalinity, hardness, pH, temperature, chlorophyll *a*, phaeophytin, total and dissolved organic carbon, DO, and bacteria. Specific results are discussed below.

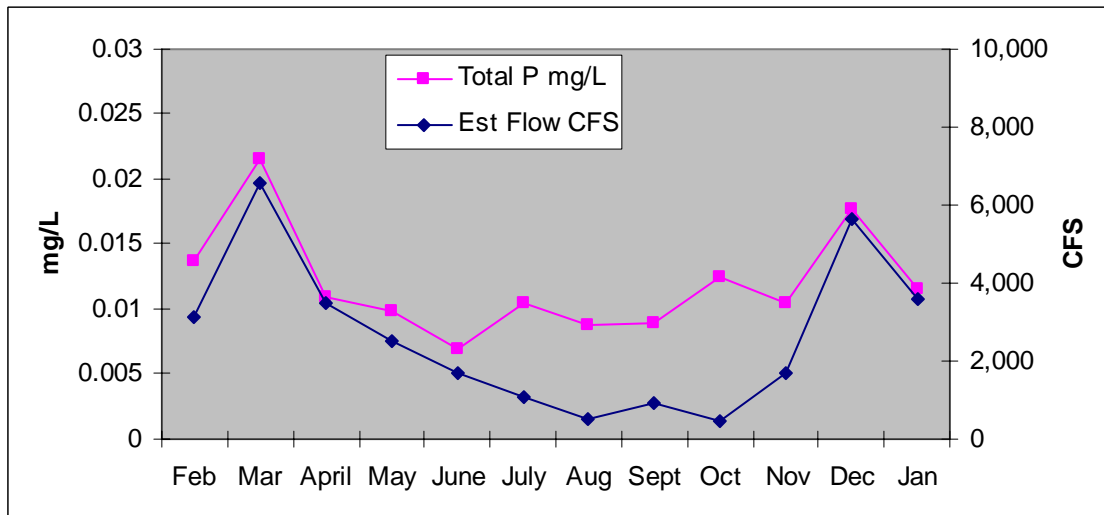
#### 3.1.1 Phosphorus

Water samples were analyzed for total phosphorus (TP) and ortho phosphorus (OP). Phosphorus is one of the nutrients essential for the growth of organisms. In western Washington, phosphorus is usually the nutrient in shortest supply or the limiting nutrient for the optimal growth of algae (Mason, 1991). As such, anthropogenic phosphorus sources, such as untreated sewage, have the potential to cause a nutrient imbalance and increased frequency and density of algal blooms, similar to the eutrophication of Lake Washington in the 1950s. Non-point phosphorus sources are also a significant concern and are generally the main cause of eutrophication in rivers, lakes, and estuaries in the U.S. (Carpenter et al. 1998)

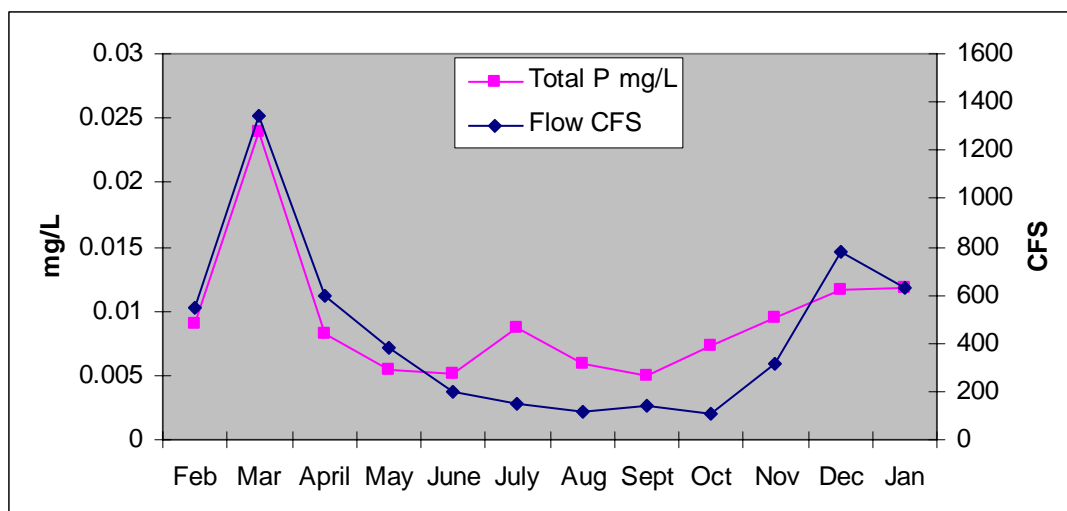
Results show that TP concentrations co-varied with flow at each station (Figures 2 - 4). This indicates that storm flow is a significant source of TP. TP concentration during low flow is an indication that groundwater flowing into the Snoqualmie and Tolt Rivers is also a source of TP. TP concentrations were low compared to average stream concentrations in urban areas, which ranged from an average of 0.040 mg/L TP for Issaquah Creek to 0.080 mg/L for Thornton Creek (Brett et al., 2003). These results suggest that there are sources of TP to the Snoqualmie and that both the riparian buffers, which function to filter out and retain TP, are more intact in the Snoqualmie Valley as compared to urban Seattle and Issaquah. Additionally, the volume of water from the upper Snoqualmie watershed, which is relatively pristine snowmelt, serves to dilute TP concentrations.



**Figure 2. Total Phosphorus and Flow at Chinook Bend in the Snoqualmie River (Snoq539CS)**

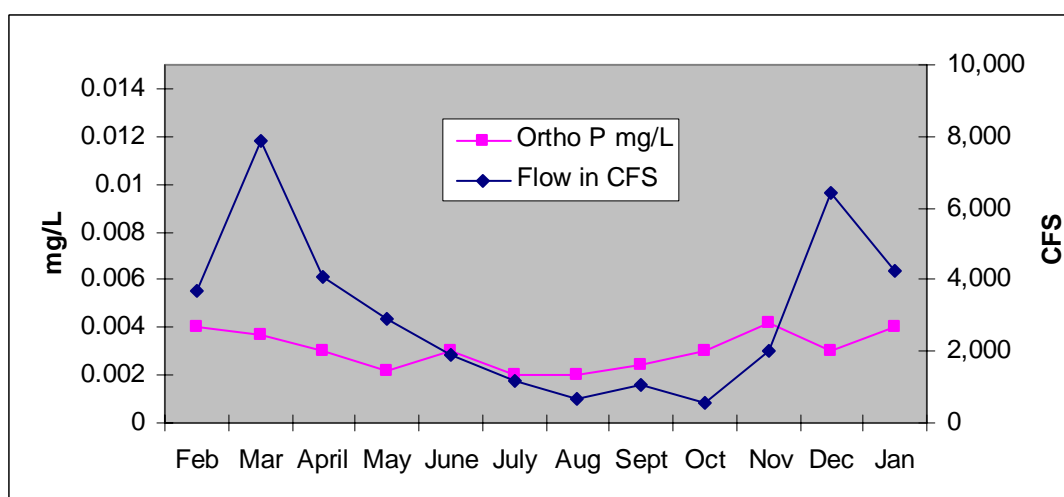


**Figure 3. Total Phosphorus and Flow in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**

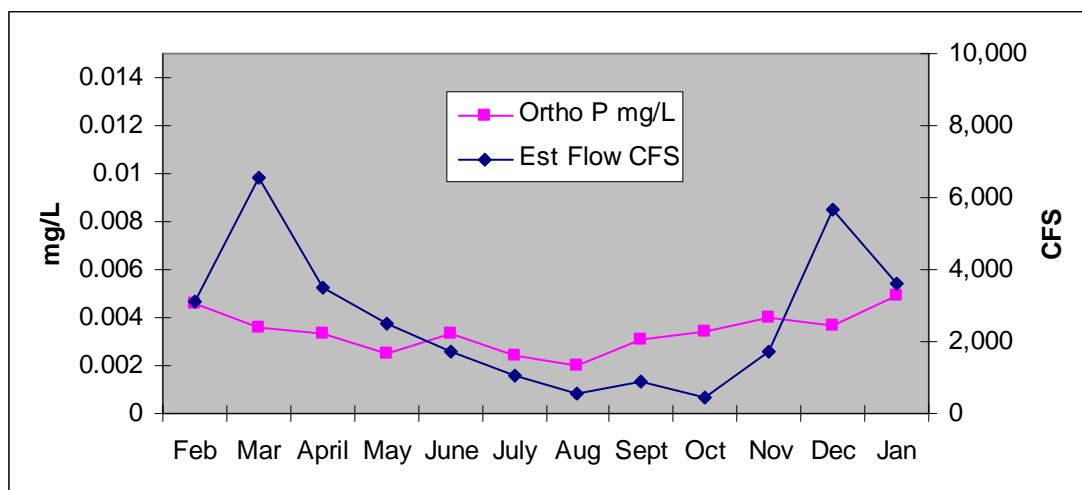


**Figure 4. Total Phosphorus and Flow in the Tolt River (Tolt569D2)**

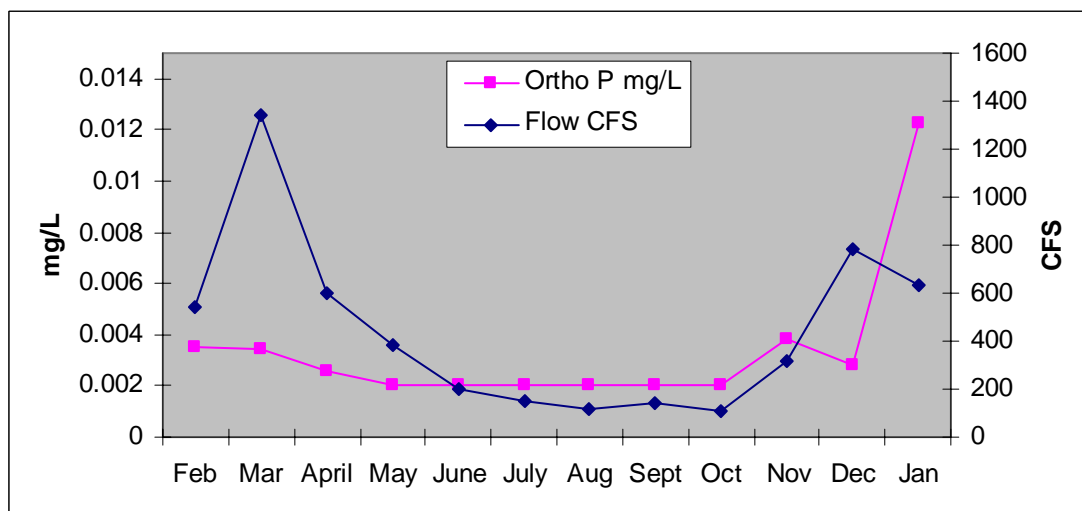
Ortho Phosphorus (OP), or Soluble Reactive Phosphorus, is a measure of dissolved P and represents the most bioavailable P. As such, it is a better indication of eutrophication potential than TP (Brett et al., 2003). In Contrast to TP, OP is relatively constant through out the year (Figures 5 - 7), whereas TP dynamics are more complex and correlate better to stream flow. This indicates that the OP source to both the Snoqualmie and Tolt Rivers is likely from groundwater, which doesn't fluctuate with stream flow as readily.



**Figure 5. Ortho Phosphorus and Flow at Chinook Bend in the Snoqualmie River (Snoq539CS)**



**Figure 6. Ortho Phosphorus and Flow in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**



**Figure 7. Ortho Phosphorus and Flow in the Tolt River (Tolt569D2)**

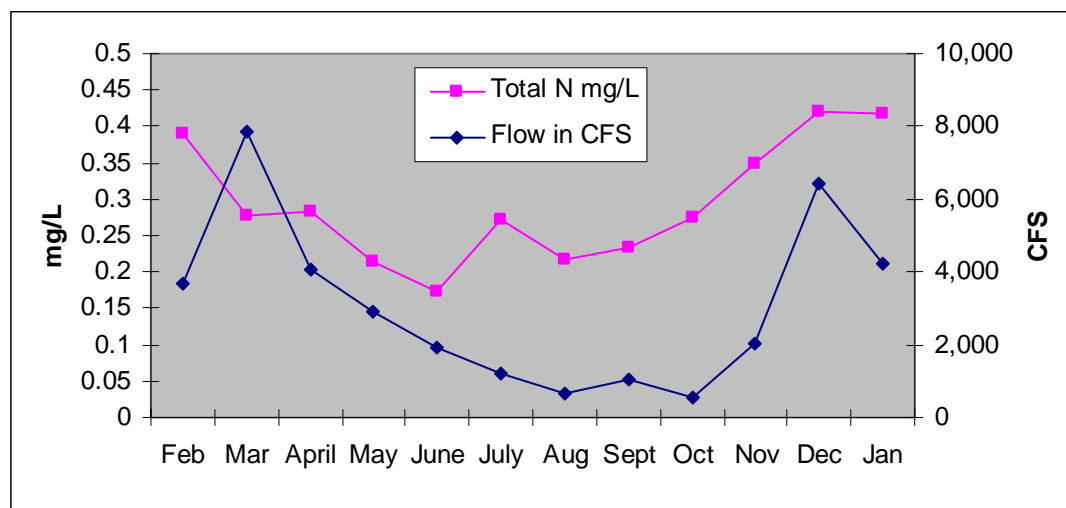
### 3.1.2 Nitrogen

In aquatic systems, nitrogen takes the dissolved forms of ammonia, nitrate and nitrite. Nitrate has relatively low toxicity, but ammonia and nitrite can be toxic to aquatic life at comparatively low concentrations. Nitrite is an intermediate form of nitrogen that is formed during the reduction of nitrate or oxygenation of ammonia. These reactions occur quickly in the water column making nitrite concentrations typically low relative to ammonia and nitrate.

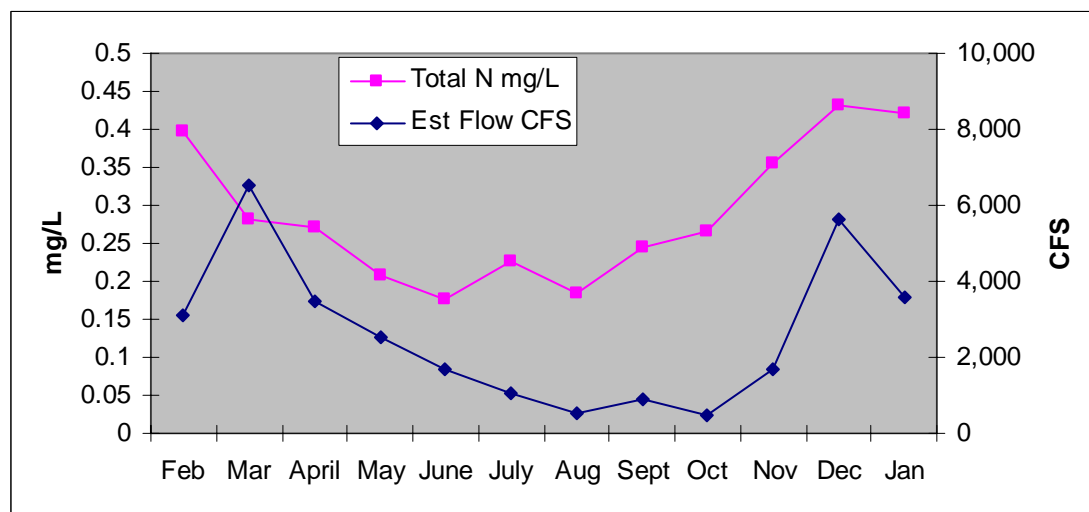


Total nitrogen, nitrate-nitrite, and ammonia were all analyzed for this study. Ammonia and nitrate-nitrite nitrogen were infrequently detected and so were not graphed. The low concentrations of ammonia never approached the State of Washington water quality standard (Ecology, 2004)

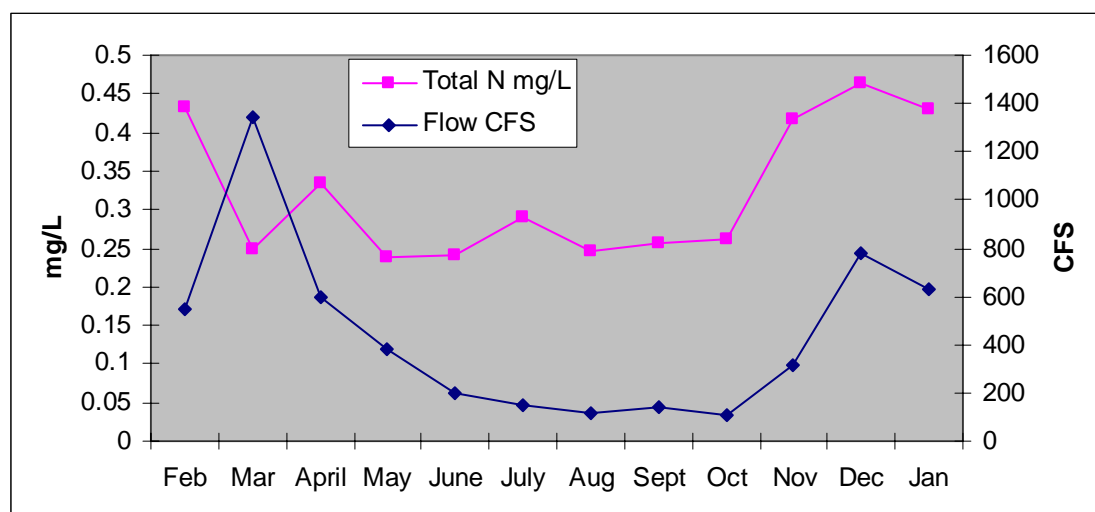
Total nitrogen levels fluctuated with flow (Figures 8 - 10) similar to that observed for TP. Also similar to TP, nitrogen was detected at higher concentrations in the winter, when photosynthesis and uptake by aquatic plants is typically low. (Welch, 1980). Total nitrogen concentrations in the Snoqualmie were lower than stream concentrations in more urbanized areas. (King County, 2004b).



**Figure 8. Nitrogen and Flow at Chinook Bend in the Snoqualmie River (Snoq539CS)**



**Figure 9. Nitrogen and Flow in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**

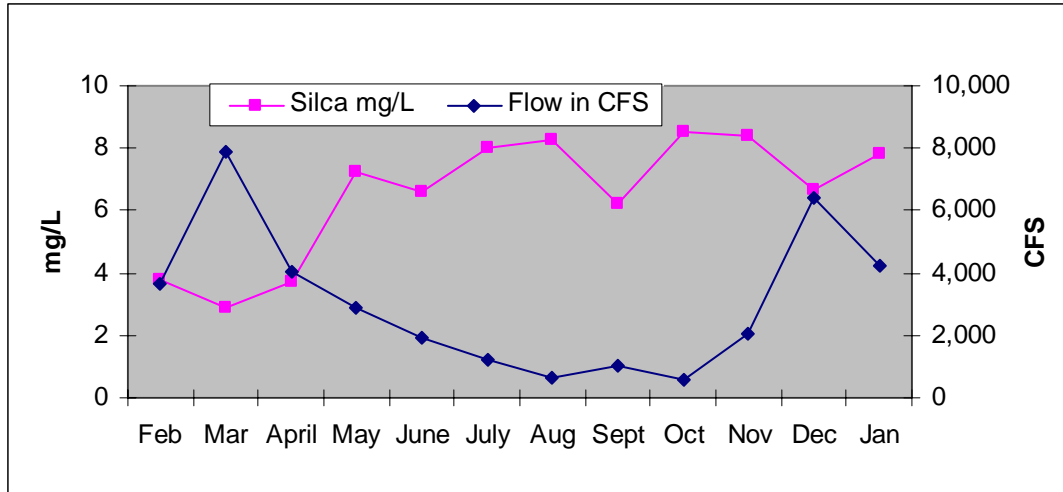


**Figure 10. Nitrogen and Flow in the Tolt River (Tolt569D2)**

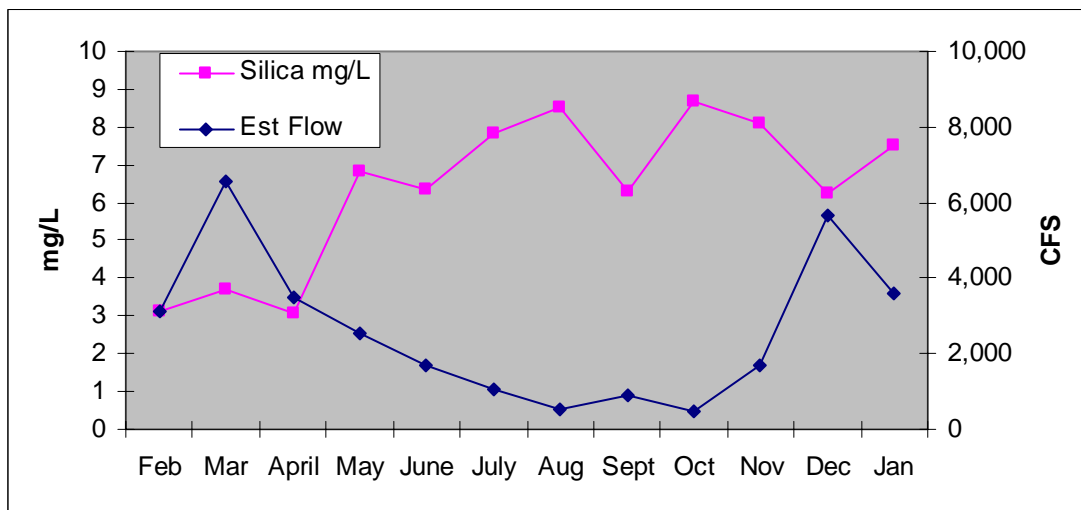
### 3.1.3 Silica

Silica is usually moderately abundant in fresh waters and, although it is relatively unreactive, it is of major significance to diatomaceous algae. Diatoms assimilate large quantities of silica in the synthesis of their frustules. Diatoms are a major part of the food web in freshwater systems. Availability of silica can have a strong influence on the overall pattern of algal succession and productivity in lakes and streams. (Wetzel, 1975)

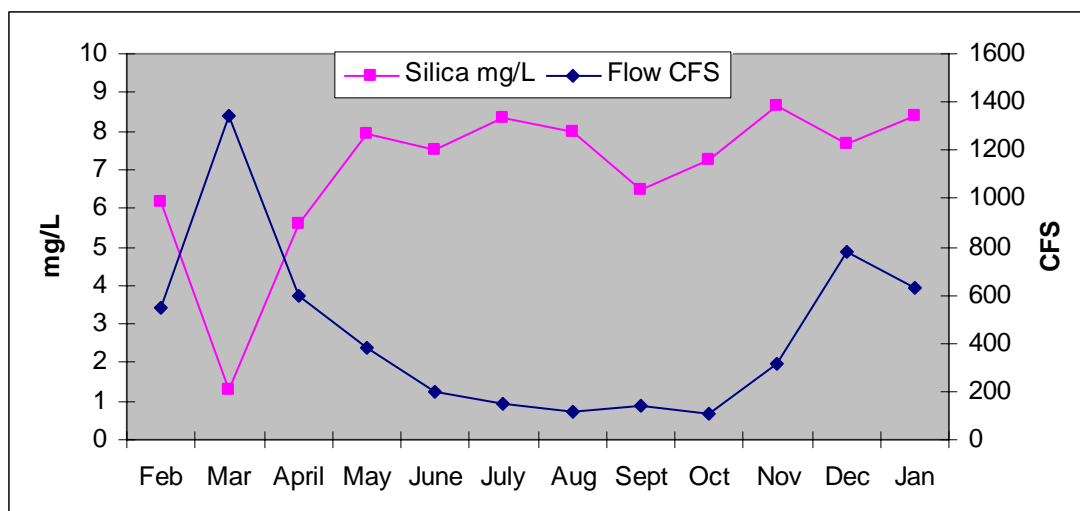
At all three sites, silica concentrations were higher with lower flow conditions (Figures 11 - 13). During the summer dry season, flow in the Snoqualmie is dominated by groundwater inputs. This suggests that groundwater is a significant source of silica to the River and is diluted by stormwater runoff in the winter rainy and spring snowmelt runoff seasons.



**Figure 11. Silica and Flow at Chinook Bend in the Snoqualmie River (Snoq539CS)**



**Figure 12. Silica and Flow in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**



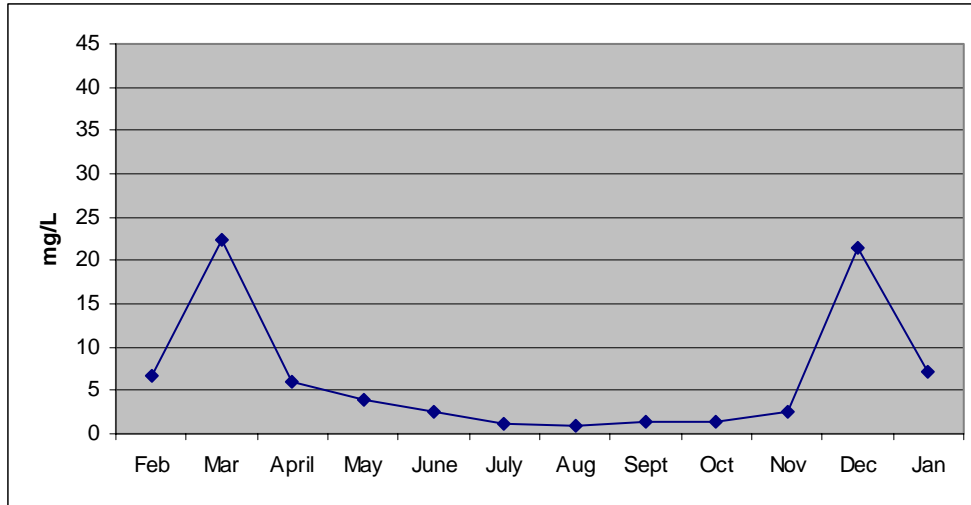
**Figure 13. Silica and Flow in the Tolt River (Tolt569D2)**

### 3.1.4 Turbidity and Total Suspended Solids

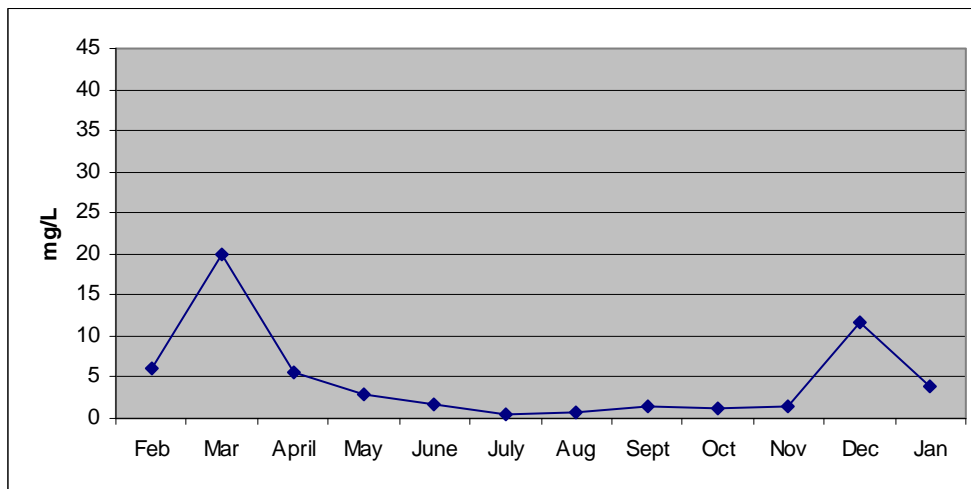
Turbidity is a visual property of water and implies a reduction or lack of clarity that results from the presence of suspended particles. Turbidity usually consists of inorganic particles and originates by erosion of soil within the basin and from resuspension of bottom sediments (Wetzel, 2001).

Total suspended solids (TSS) is a measurement of the concentration of particulate matter in the water column. In highly productive systems, TSS is often higher due to high concentrations of organic matter in the water column including algae. Systems with rapid flow and fine sediments can also have elevated TSS because deposition rates are very slow. High TSS can have adverse effects on plants by decreasing light penetration, filter feeders by clogging their filtering organs, and fish by decreasing visibility and impairing and damaging gills.

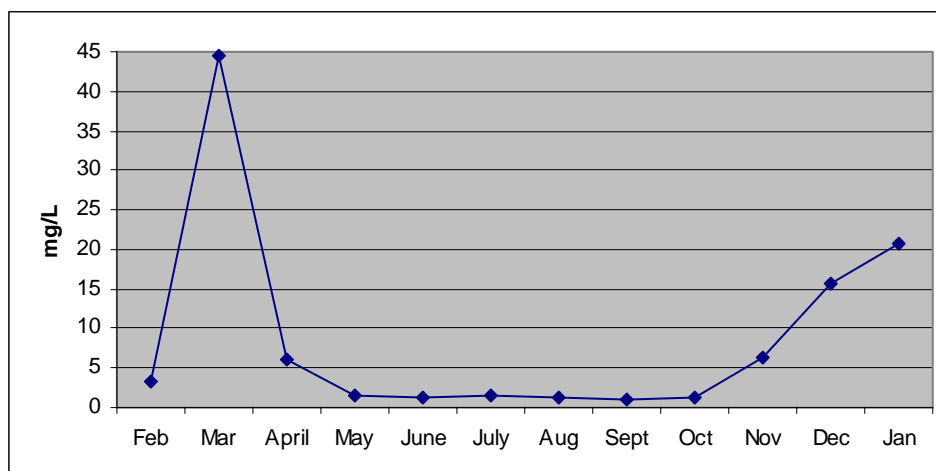
While both TSS and turbidity measurements were taken, only TSS concentrations are presented in the following figures (Figures 14 - 16). TSS at all three sites varied with flow, with the greatest concentrations corresponding with high flow periods. Water clarity is very good at all stations during summer low flow conditions indicating no reduced clarity from algal blooms during periods of highest productivity, spring and summer.



**Figure 14. TSS at Chinook Bend in the Snoqualmie River (Snoq539CS)**



**Figure 15. TSS in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**



**Figure 16. TSS in the Tolt River (Tolt569D2)**

### 3.1.5 Temperature and Dissolved Oxygen

Dissolved oxygen (DO) is necessary for the life processes of aquatic animals. The oxygen is supplied by the photosynthesis of plants, including algae, and by aeration. Oxygen is consumed by animals, by plants at night, and by bacterial decomposition of dead organic matter (plant matter and animal waste).

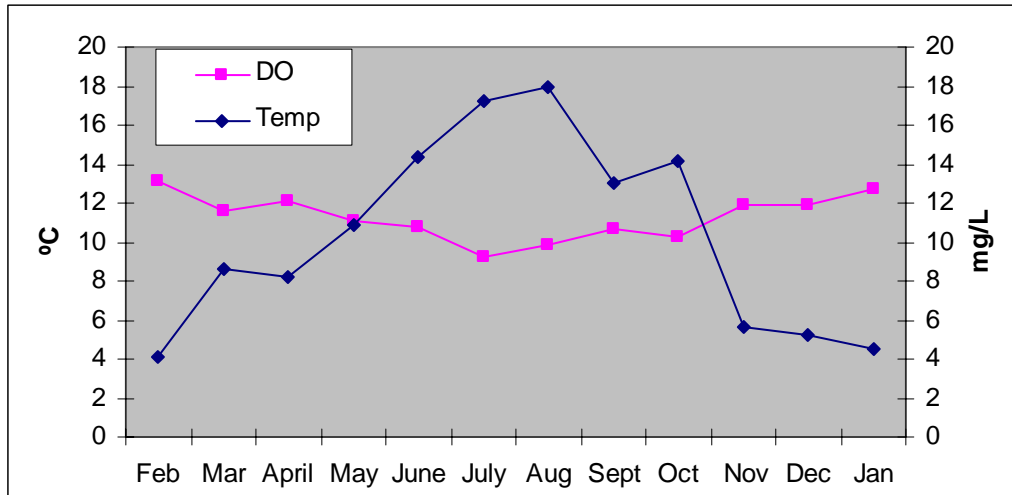
DO concentration is dependent on temperature because temperature limits the capacity of water to hold oxygen. At warmer temperatures, water does not hold as much dissolved oxygen as at colder temperatures.

The figures below (figures 17 - 19) graph both temperature and DO. For temperature, the State of Washington water quality standard for protection of aquatic life for salmon spawning and core rearing habitat is 16° C. (Ecology, 2003). Both the Chinook Bend site and the site upstream of the Tolt failed this standard in July and August of 2003. Temperatures on the Tolt River never failed the standard of 16° C. (Ecology, 2003).

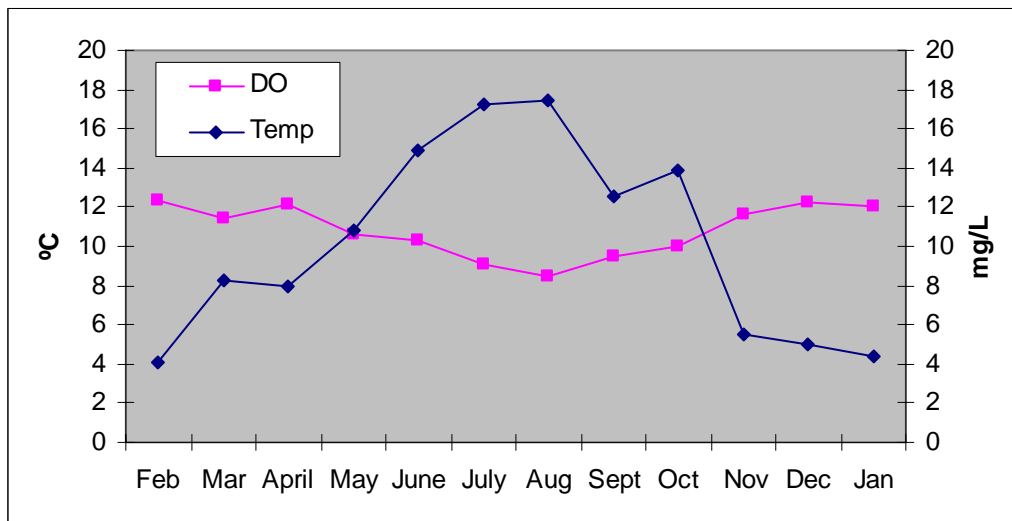
For DO, the state water quality standard is 9.5 mg/L (Ecology, 2003). The Chinook Bend site failed to meet this standard in July; the DO concentration was 9.2 mg/L. The Snoqualmie site above the confluence with the Tolt also failed to meet this standard in July (concentration was 9.1 mg/L), in August (concentration was 8.5 mg/L), and in September (concentration was 9.4 mg/L). DO concentrations on the Tolt River were always above the standard.

At the Snoqualmie site above the confluence with the Tolt, stratification could be playing a role in the temperature excursion. The sampling station was located at the surface in a deep pool that is slow-moving in the summer. As water warms up, it becomes less dense and rises toward the surface, and cooler water sinks. This would cause a temperature stratification in this pool. It is possible that while temperatures were too high on the surface, they could be lower below the

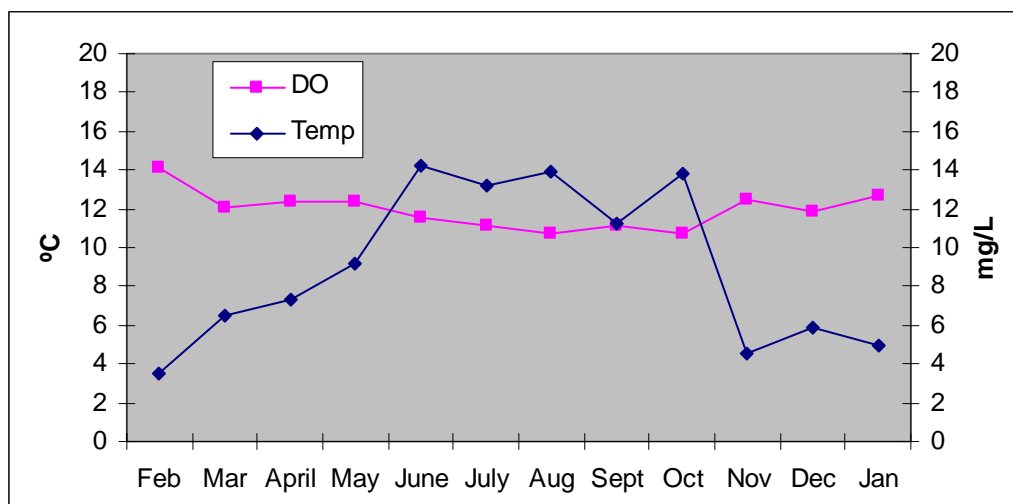
surface. This would also mean that a fish could find a refuge from higher temperatures by moving toward deeper cooler water.



**Figure 17. Temperature and DO at Chinook Bend in the Snoqualmie River (Snoq539CS)**



**Figure 18. Temperature and DO in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**



**Figure 19. Temperature and DO in the Tolt River (Tolt569D2)**

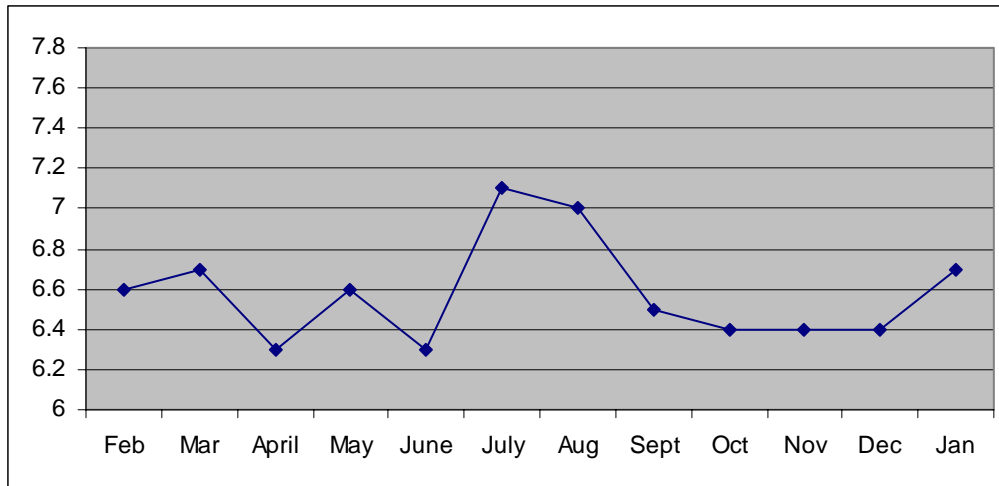
### 3.1.6 pH

pH is a measure of the acidity of water. The pH measurement is the concentration of hydrogen ions on a log scale. The pH of natural waters is governed to a large extent by the interactions of the hydrogen ions produced the hydrolysis of bicarbonate (Wetzel, 2001). The acceptable range of pH for the protection of aquatic life is 6.5 to 8.5 as defined by the State Water Quality Standards (Ecology, 2003)

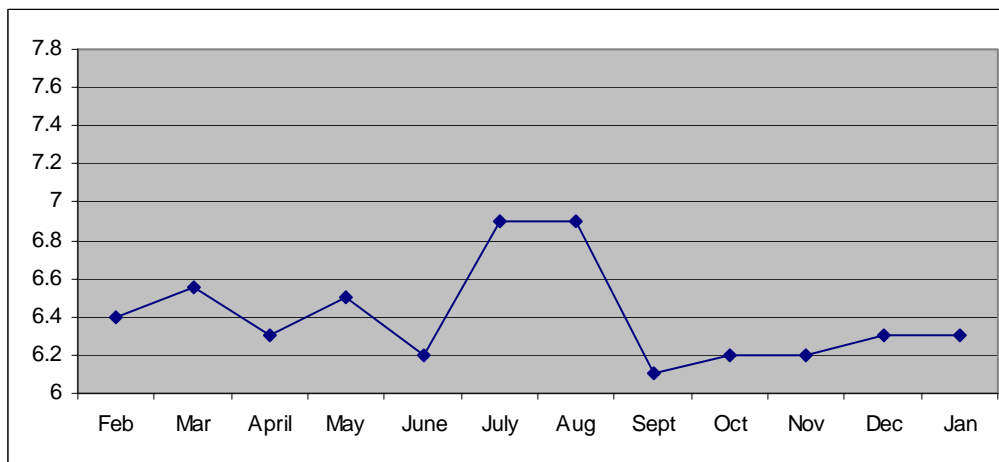
The graphs below (Figures 20 - 22) show that the two mainstem Snoqualmie stations had a pH below the range of the state water quality standards several times during the sampling period. Slightly acidic water can be expected in a watershed dominated by coniferous forests. Conifers can acidify soils in addition to adding tannins to the water column from decaying tree litter.

Higher pH in the summer can be caused by the photosynthetic process of aquatic plants. Photosynthesis removes carbon dioxide and adds oxygen. This process also increases pH. Photosynthesis can cause a diurnal fluctuation in pH because as photosynthesis ceases at night and plants undergo respiration, carbon dioxide is emitted to the air and combines with water vapor to form carbonic acid. Thus, pH can return to more acidic levels. This explanation seems likely because pH was analyzed by field staff at all stations during the summer (June – September) between 10 AM and 2 PM when the highest levels of photosynthesis would be expected.

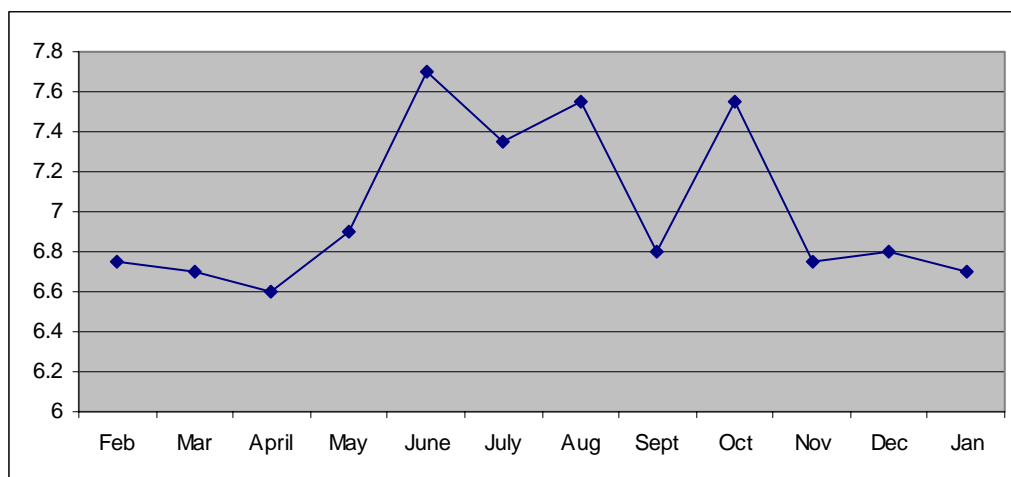




**Figure 20.** pH at Chinook Bend in the Snoqualmie River (Snoq539CS)



**Figure 21.** pH in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)

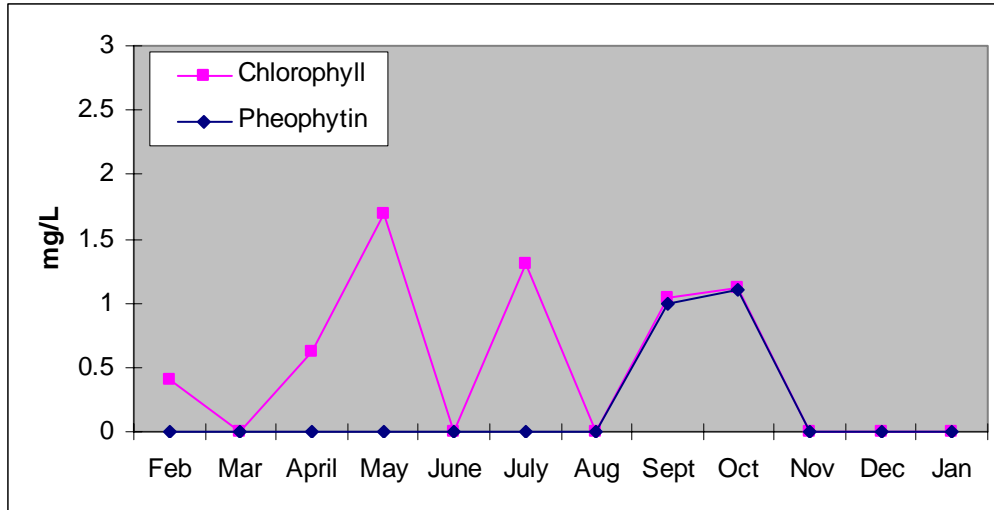


**Figure 22. pH in the Tolt River (Tolt569D2)**

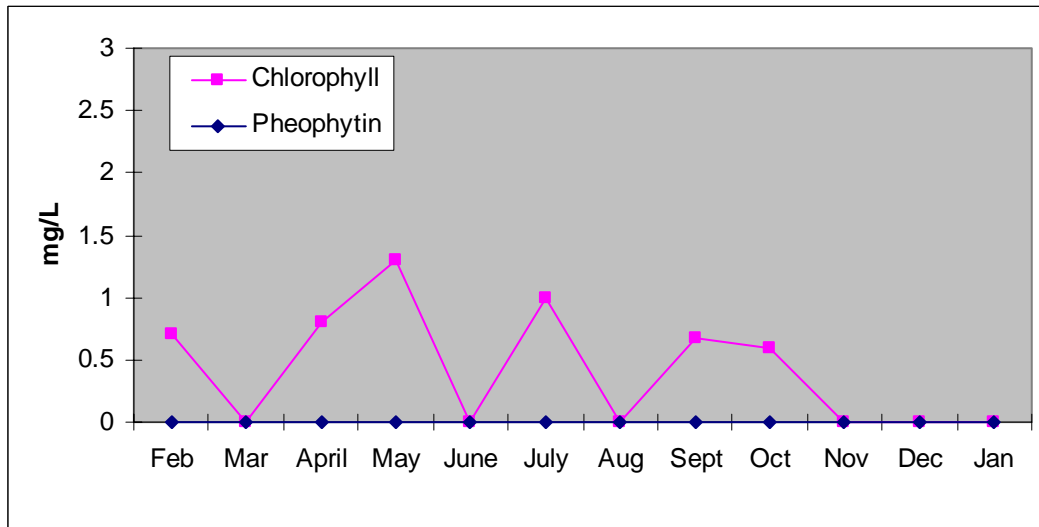
### 3.1.7 Chlorophyll *a* and Phaeophytin

Chlorophyll is the green pigment in plants that provides most of the plant's color and supports the process of photosynthesis. Algae contain chlorophyll *a* and typically one of the other common chlorophylls (*b*, *c*, and *d*). Chlorophyll *a* and *b* have a porphyrin type ring structure with a magnesium atom in the center. The removal of the magnesium atom produces related compounds called phaeophytin *a* and *b*. This occurs rapidly following algal death. High phaeophytin levels are often associated with stressed algal communities.

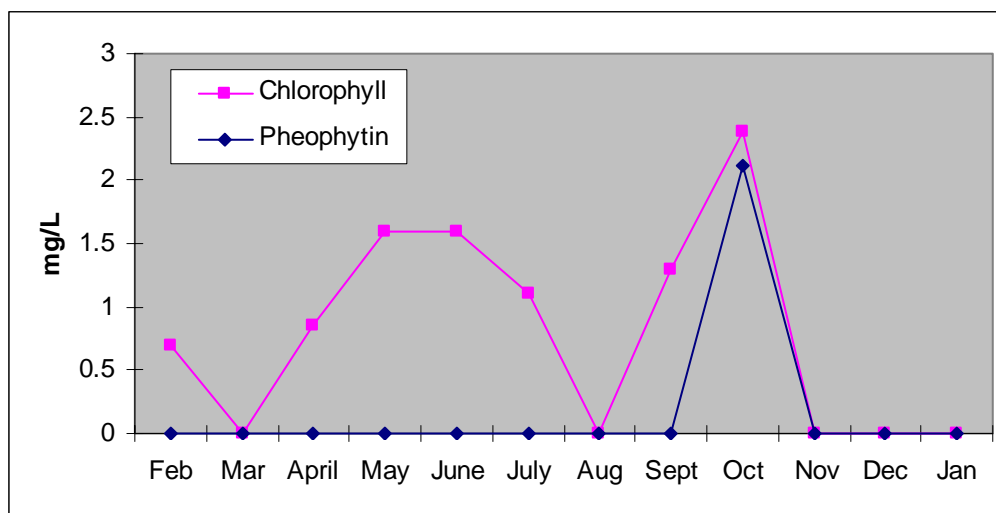
In the figures below (Figures 23 - 25), phaeophytin levels are undetected during much of the year. Phaeophytin levels increase late in the year, and then along with chlorophyll drop to undetected levels. The spike of phaeophytin and attendant drop in chlorophyll occur in the late fall when productivity decreases due to the lack of light associated with the onset of winter. The spike in phaeophytin appears to mark the end of algal productivity for the year, rather than an algal community that has been stressed by an anthropogenic disturbance.



**Figure 23. Chlorophyll and Phaeophytin at Chinook Bend on the Snoqualmie River (Snoq539CS)**



**Figure 24. Chlorophyll and Phaeophytin on the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**



**Figure 25. Chlorophyll and Pheophytin on the Tolt River (Tolt569D2)**

### 3.1.8 Dissolved and Total Organic Carbon

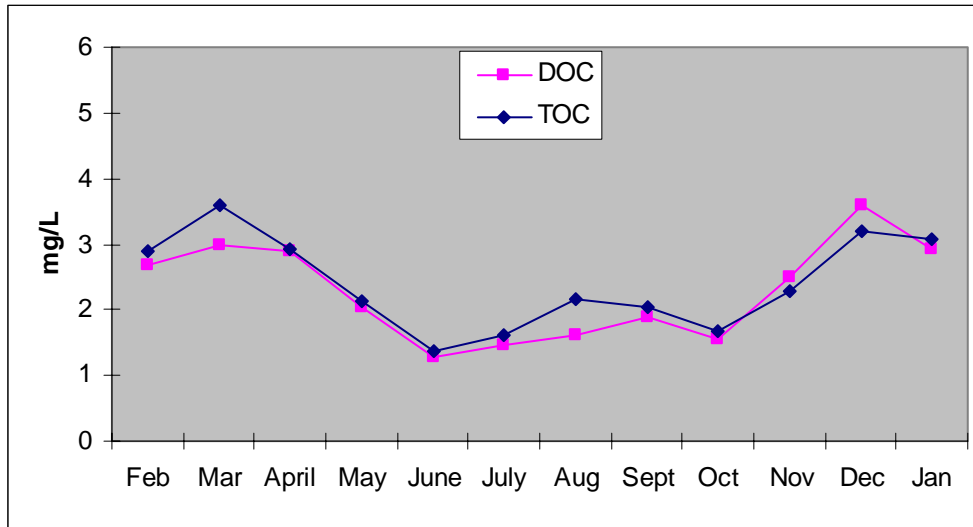
Organic matter is important as a food source for the aquatic community in river and stream systems. Organic matter is generally contributed to a stream system from the riparian areas along the stream and is transported downstream from higher in the basin. These sources include leaf litter and woody debris as well as runoff from adjacent lands, stormwater and other discharges. The transfer of organic matter from higher to lower in a stream basin is part of the river continuum concept that describes this movement as the transfer of energy through an aquatic system (Vannote et al. 1980).

The leaf litter or woody debris (CPOM – coarse particulate organic matter) that is typically deposited is reduced in size by benthic infauna, microbes, etc. (which are then grazed upon by organisms of a higher trophic level) and by erosion, which is caused by downstream travel (Minshall, 1996). Lower down in a drainage basin, such as the mainstem Snoqualmie River near Carnation, organic matter is likely to have been reduced enough in size to be mostly dissolved (FPOM – fine particulate organic matter). Organic matter content is typically measured as total organic carbon and dissolved organic carbon, which are essential components of the carbon cycle.

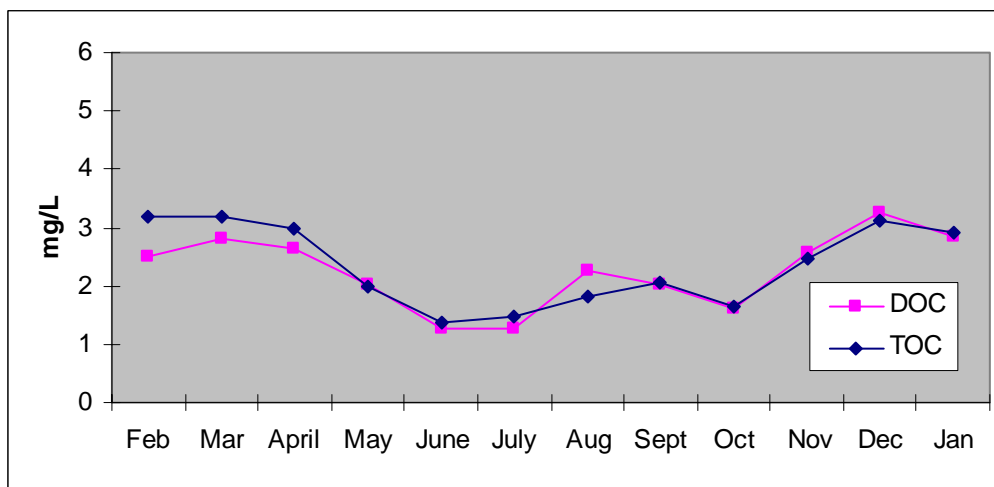
Additionally, organic carbon is important to the bioavailability and transport of toxic chemicals in aquatic systems (Akkaen and Kukoken, 2003; Kolka et al., 1999). Toxic chemicals can adsorb to organic carbon and become less bioavailable, but are more likely to be transported downstream.

In the graphs below (Figures 26 - 28), organic carbon is at its highest when flows transporting organic carbon from upstream are highest. Also organic carbon is highest when productivity is lowest and fewer organisms are present to metabolize organic carbon. The graphs also indicate

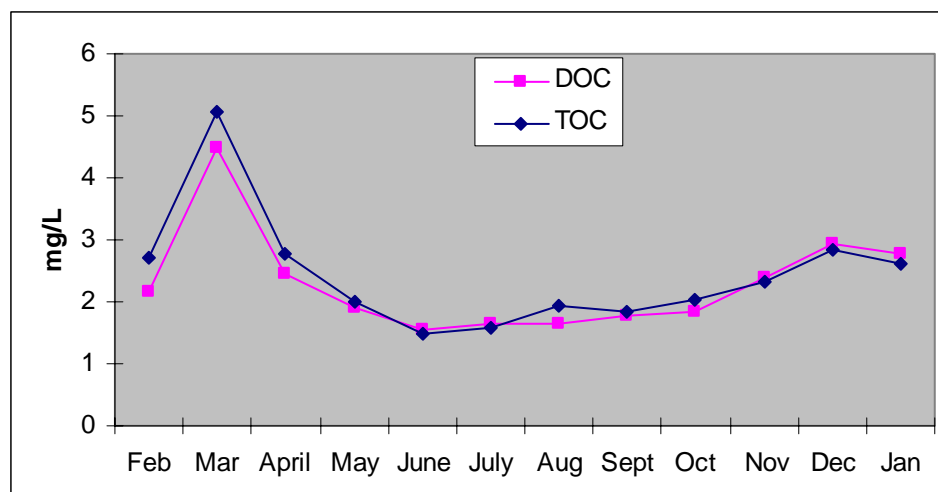
that the majority of the organic carbon is present in the dissolved form in this part of the lower mainstem River, much as the river continuum concept predicts.



**Figure 26. Dissolved Organic Carbon and Total Organic Carbon at Chinook Bend (Snoq539CS)**



**Figure 27. Dissolved Organic Carbon and Total Organic Carbon Snoqualmie River Upstream of Tolt (Snoq569CZ)**



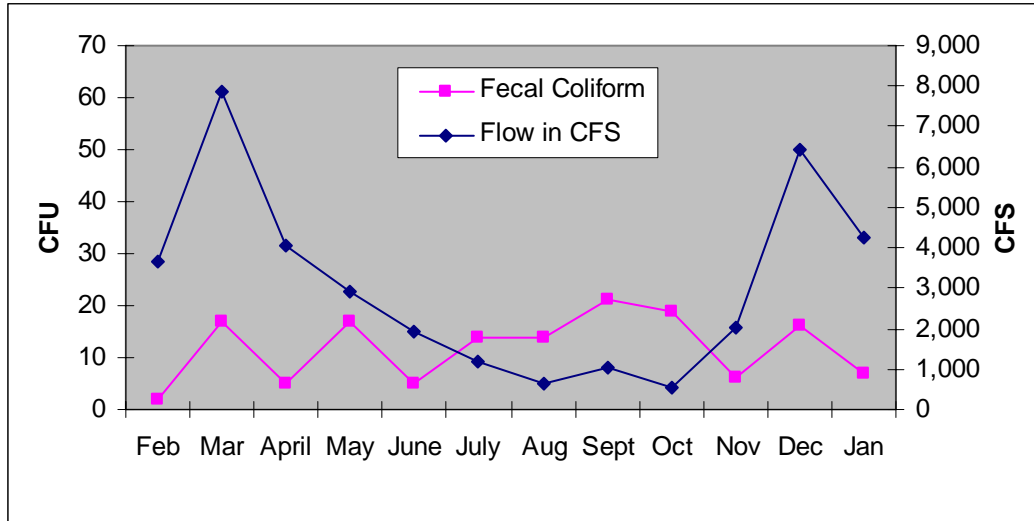
**Figure 28. Dissolved Organic Carbon and Total Organic Carbon Tolt River (Tolt569D2)**

### 3.1.9 Bacteria

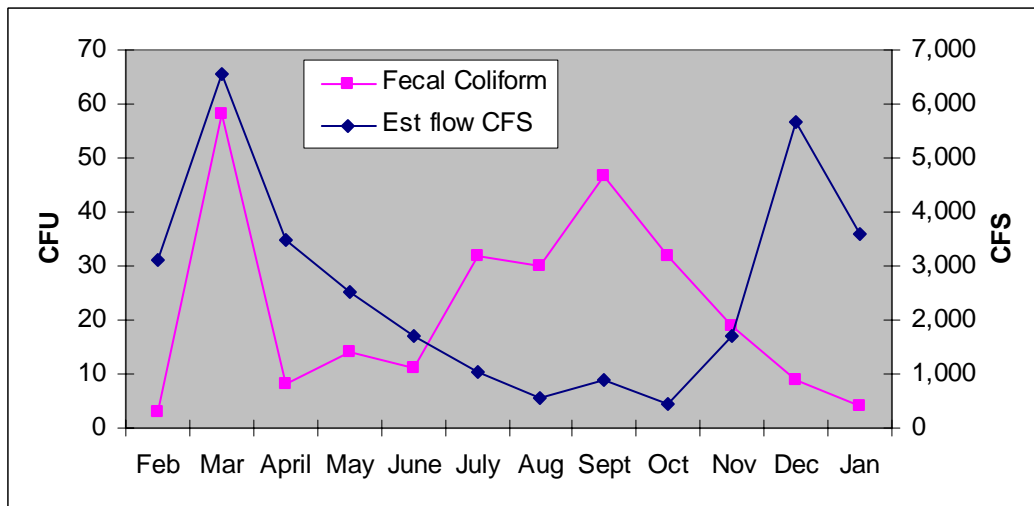
Fecal coliforms are groups of bacteria found in the feces of warm-blooded animals such as people, livestock, pets, and wildlife. The amount of fecal coliform in a water body increases with the amount of sewage, waste or manure. Fecal coliforms are routinely used as an indicator of sewage pollution in water, and as an indicator of a human health risk. While indicator bacteria may not themselves be capable of directly causing a disease in people (pathogenic), their presence indicates that the water may be contaminated with pathogenic bacteria and viruses. Fecal coliform bacteria typically occur at very high counts (several thousand CFUs) when sewage is present. However, high bacteria counts in water do not necessarily indicate human sewage pollution because many other mammals and birds also contribute to this type of contamination. Low counts of fecal coliform bacteria, less than 50 CFUs, are routinely found in waters of high quality. The state water quality standards for bacteria are based on fecal coliform (Ecology, 2003)

*Escherichia coli* (*E. coli*) is another type of indicator bacteria, which is not typically pathogenic. EPA standards are based on an epidemiological study by Dufour (1984) which demonstrated that *E. coli* was a better predictor of swimming-associated gastrointestinal illness than fecal coliform concentration (Francy et al., 1993). Both bacteria are routinely monitored by King County to better understand the health risk posed by pathogens in surface water.

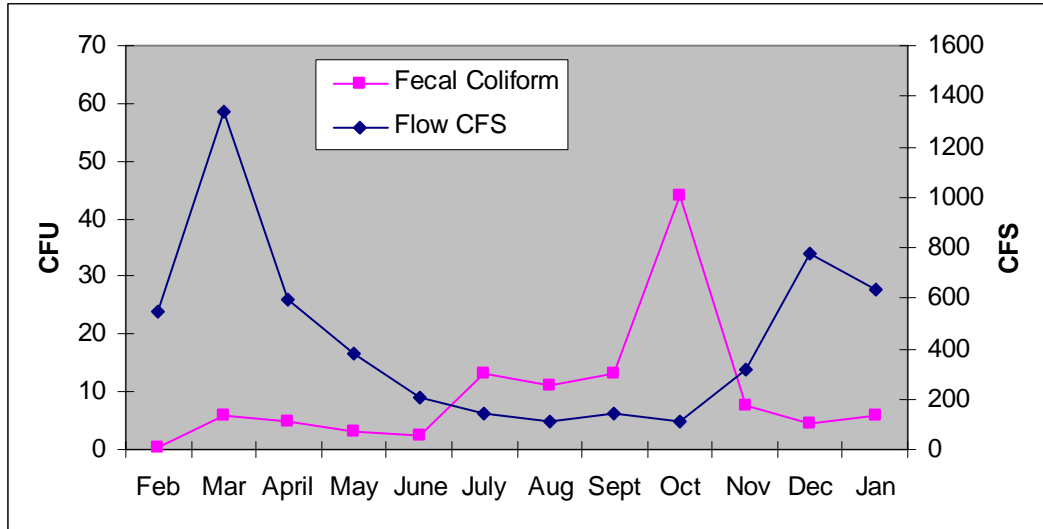
The graphs below (Figures 28 - 33) show that both fecal coliform and *E. coli* concentration dynamics are complex and do not appear to vary with flow or season. Concentrations rarely get above 50 CFU and do not approach the water quality standard, which would indicate a human health risk.



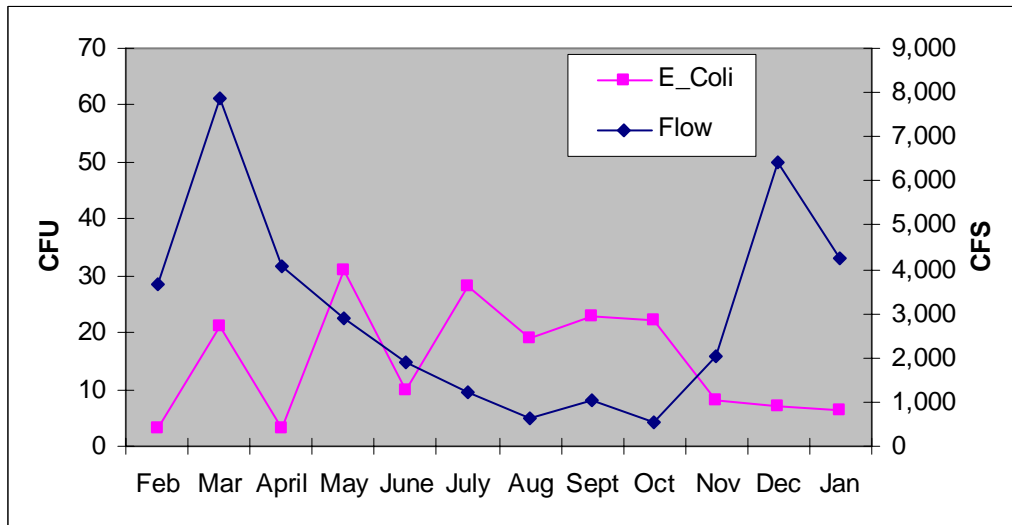
**Figure 29. Fecal Coliform Bacteria at Chinook Bend in the Snoqualmie River (Snoq539CS)**



**Figure 30. Fecal Coliform Bacteria in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**

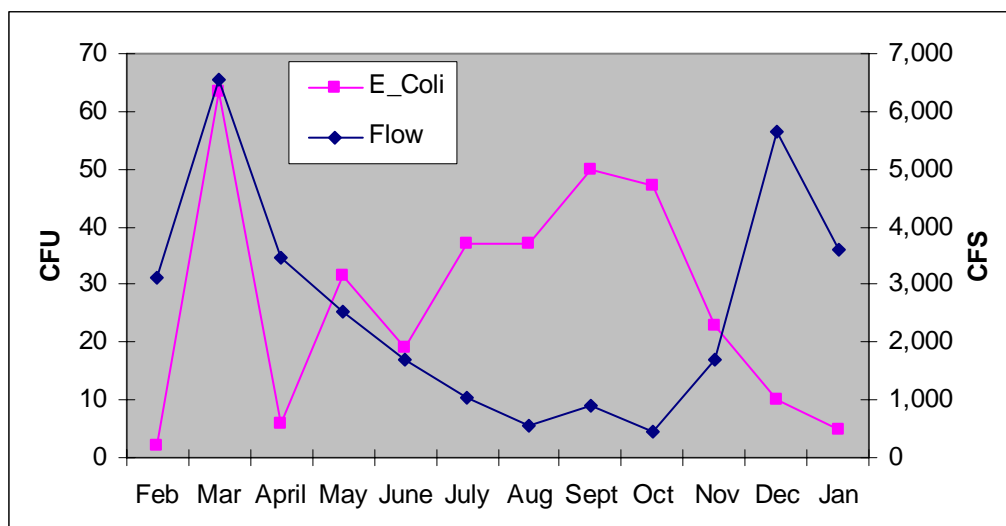


**Figure 31. Fecal Coliform Bacteria in the Tolt River (Tolt569D2)**

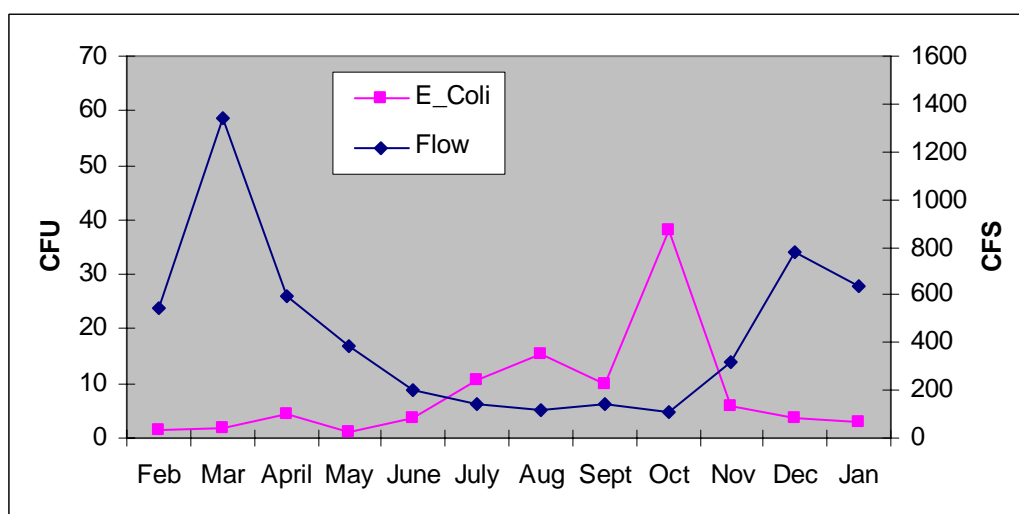


**Figure 32. E. Coli Bacteria at Chinook Bend in the Snoqualmie River (Snoq539CS)**





**Figure 33. *E. Coli* Bacteria in the Snoqualmie River Upstream of the Tolt River (Snoq569CZ)**



**Figure 34. *E. Coli* Bacteria in the Tolt River (Tolt569D2)**

## 3.2 Metals

Of the twenty-one metals analyzed, ten were detected. Metals concentrations were typically low, near the analytical detection limits.

Metal concentrations were compared to water quality standards (see Table 2). Because the toxicity of several metals varies with hardness, the water quality standards are adjusted to reflect site-specific hardness concentrations. Hardness concentrations ranged between 12.2 to 21.5 mg

CaCO<sub>3</sub>/L. The water quality standards were adjusted using the lowest observed hardness concentrations to represent the most conservative situation.

For a number of metals, water quality standards are based on the dissolved concentration. This is because some metals are more bioavailable in their dissolved phase and therefore are a better predictor of toxicity. Only one metal, copper, was detected in its dissolved phase but was well below the water quality standards based on a hardness of 12.2 mg CaCO<sub>3</sub>/L.

Further review of the hardness results indicate that the average hardness concentration was 16.6 mg CaCO<sub>3</sub>/L with a standard deviation of 3.1. Hardness concentrations this low are the result of the geologic makeup of the Snoqualmie Valley. Most bedrock in the valley is igneous or volcanic from the mountain building processes that resulted in the Cascade Mountains. The geologic makeup of the valley includes little sedimentary rock that contains carbonate minerals. With few dissolved carbonates in the water column, the buffering capacity of the surface waters in the Snoqualmie Valley is minimal. As noted above, the pH measurements observed during this study were often more acidic than the state water quality standards. With minimal buffering capacity, the Snoqualmie system may not have the ability to maintain pH if there are additional acidic inputs that could include new industrial discharges, acid rain from aerial deposition of nitrogen compounds, or the build-up of carbon dioxide in the atmosphere. As pH decreases, metals become more toxic and more likely to dissolve and become bioavailable.

**Table 2. Water Quality Standards for Metals based on Hardness of 12.2mg CaCO<sub>3</sub>/L.**

Parameter	units	Standards		Criteria	
		WA Acute	WA Chronic	EPA Acute	EPA Chronic
Aluminum, Total	µg/L	--	--	750	87
Arsenic, Dissolved	µg/L	360	190	340	150
Cadmium, Dissolved	µg/L	0.3772	0.2168	0.3579	0.4012
Chromium (VI), Dissolved	µg/L	15	10	16	11
Chromium (III), Total	µg/L	97.9702	31.7805	273.6246	13.0783
Copper, Dissolved	µg/L	2.3444	1.8807	1.6394	1.3138
Iron, Dissolved	µg/L	--	--	--	1000
Lead, Dissolved	µg/L	6.1558	0.2399	2.8044	0.0546
Mercury, Dissolved	µg/L	2.1	--	1.4	0.77
Mercury, Total	µg/L	--	0.012	--	--

Nickel, Dissolved	µg/L	238.7490	26.5150	67.2688	7.4790
Selenium, Total	µg/L	20	5	19.34	5
Silver, Dissolved	µg/L	0.0952	--	0.0952	--
Zinc, Dissolved	µg/L	19.2521	17.5801	17.1320	17.1320

For non-detected metals, a comparison of their detection limits with water quality standards was performed to determine if it was possible that a metal could be present below detection limits but above water quality standards.

The detection limit for lead in this study was 0.2 µg/L. While the chronic state water quality standard is above this concentration, the EPA chronic criterion is below the lead detection limit (0.0546 µg/L). Also, the silver detection limit is 0.2 µg/L, while the state and EPA acute standards are 0.0952.

With a hardness of 12.2 mg CaCO<sub>3</sub>/L, the hardness corrected standards are quite low. While silver was never detected, there is uncertainty whether it was present in a concentration above the water quality standard. In the case of the lead, there is less uncertainty because the detection limit is below both the acute and chronic State standards and is only above the chronic EPA criterion. No other non-detected metals had detection limits above State water quality standards or EPA criteria.

The results indicate that metals concentrations are not a water quality concern in the study area.

### 3.3 Organic Compounds

In all, 27 organochlorines, 7 organophosphates, 75 base neutral acid extractable organic compounds, and 10 herbicides were analyzed in each of the 12 samples collected for this assessment. Of that total, only the compound bisphenol A was detected.

Bisphenol A is a plasticizer found in a wide variety of consumer products and is considered an endocrine disrupting compound. The concentration at which it was detected was low, below the KCEL's reporting detection limit, but just above the method detection limit. This means that the chemical was positively identified in the sample but the concentration was low enough to cause uncertainty about the exact value.

Enzyme linked immunosorbent assays (ELISAs) were also conducted during the study to assess the presence and concentration of estradiol and ethynylestradiol in the study area. Results showed that neither compound was detected. ELISAs have detection limits of 0.2 ng/L for estradiol and 0.3 ng/L for ethynylestradiol.

During the assessment of data quality, it was determined that the associated laboratory quality assurance blanks for all of the phthalates analyzed contained these compounds. Additionally, blank contamination was associated with all detections of phenol, bis(2-ethylhexyl)adipate, and

total 4-nonylphenol. Blank contamination was also identified for bisphenol A during 11 of the 12 times this chemical was analyzed. Quality assurance blanks are used to determine if any of the laboratory procedures are contributing in any way to the chemical concentrations found in the sample result. As a result of the quality assurance analysis, it was determined that all of the analytical results with associated blank contamination should be interpreted as if the chemicals were undetected. Complete quality assurance reports appear in Appendix C.

In all, only one positive detection of an organic compound, and even that was near detection limits, indicates water quality in the Snoqualmie and Tolt Rivers is excellent with regard to the toxic organic chemicals that were evaluated for this assessment.

## 4.0. CONCLUSIONS

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Water quality samples collected at both stations on the Snoqualmie River failed to meet State of Washington water quality standards for temperature, DO, and pH during the summer sampling period. All of these parameters are a concern, and should continue to be monitored. Both of the DO and temperature excursions were minimal and may be explained by the sampling methods and locations. Both temperature and DO are expected to fluctuate diurnally. Sampling was typically undertaken in the middle of the day when temperatures were highest. Also it is possible that river stratification was occurring. Stratification can happen in deeper, slow moving areas. As the water column warms up, the warmer water rises toward the surface and cooler water sinks. Even if the temperature exceeds water quality criteria, it is likely that aquatic life including salmon would be able to find a cool-water refuge in deeper water. Future temperature assessment should take into account this limitation when designing future studies.

The pH failures are of concern, especially considering the lack of buffering capacity in the water column. Because the watershed is dominated by coniferous forests, it is possible that the Snoqualmie River is slightly acidic for natural reasons. It is not clear from this study whether surface waters in the Snoqualmie River are becoming more acidic. But because of the geologic makeup of the Snoqualmie Valley watershed, the water quality of the Snoqualmie River does not appear to be able to absorb additional acidic inputs. Inputs could include point sources such as new mining or industry, but also aerial deposition of nitrogen compounds or the buildup of carbon dioxide in the atmosphere, both of which are caused by the combustion of fossil fuels.

Additionally, because of the low water hardness found during this study, metals will be of particular concern as lower hardness causes metals to become more bioavailable and toxic. Because water quality standards for several metals co-vary with hardness, the low hardness found during this study made water quality standards quite low for these metals. Therefore, the detection limits for some of these metals were above water quality standards, causing some uncertainty as to whether undetected metals could cause harmful effects to aquatic life. Future monitoring should take this into consideration when setting detection limits for metals.

Despite these results, water quality is generally very good. Other conventional parameters, such as nutrients, organic carbon, bacteria, and chlorophyll *a*, were within ranges of what would be expected for a Puget Sound lowland river. Additionally, results showed the lack of metals and organic chemicals in concentrations of concern. The high quality source water for the Snoqualmie basin coupled with little or no industry and relatively light development in the basin no doubt contribute to this result.

## 5.0. REFERENCES

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- Akkanen, Jarkko Kukkonen, and V.K. Jussi . 2003. MEASURING THE BIOAVAILABILITY OF TWO HYDROPHOBIC ORGANIC COMPOUNDS IN THE PRESENCE OF DISSOLVED ORGANIC MATTER. *Environmental Toxicology and Chemistry* 2003 22: 518-524.
- Bethel, John. 2004. An overview of the geology and geomorphology of the Snoqualmie River watershed. King County Department of Natural Resources and Parks, Water and Land Resources Division, Seattle, WA.
- Carpenter, S.R., N. F. Caraco, D. L. Correll, R. W. Howarth, A. N. Sharpley, and V. H. Smith. 1998. Nonpoint pollution of surface waters with phosphorus and nitrogen. *Ecological Applications*: 8 (3): 559–568.
- Dufour, A. P., 1984. Health Effects Criteria for Fresh Recreational Waters, EPA-600/1-84-004, 33 p.
- Ecology, Washington State Department. 2003. Chapter 173-201A WAC.
- Francey, D. S., D. N. Myers, and K. D. Metzker. 1993. *Escherischia Coli* and Fecal Coliform Bacteria as Indicators of Recreational Water Quality. USGS Water Resources Investigations Report 93-4083, 34 p.
- Joy, J., G. Pelletier, R. Willms, M. Heffner, and E. Aroner. 1991. Snoqualmie River low flow water quality assessment. Washington State Department of Ecology. P.O. Box 47600 Olympia, WA.
- King County. 1996. Web page accessed on 1-27-2005. Water year 1996 flood summary report. Snoqualmie River Basin. <http://dnr.metrokc.gov/hydrodat/FloodReports/1996-snoqualmie-flood.htm>
- King County. 2002. Snoqualmie watershed aquatic habitat conditions report: summary of 1999-2001 data. King County Department of Natural Resources and Parks, Water and Land Resources Division, Seattle, WA.

King County. 2004a. An overview of the geology and geomorphology of the Snoqualmie river watershed. King County Department of Natural Resources and Parks, Water and Land Resources Division, Seattle, WA.

King County 2004b. Streams monitoring website.

<http://dnr.metrokc.gov/wlr/waterres/streams/creekindex.htm> Accessed January 2005.

Mason, C. F. 1991. Biology of freshwater pollution. Second edition. John Wiley and Sons publishing, New York.

Solomon, Fran and Melissa Boles. 2002. Snoqualmie watershed aquatic habitat conditions report: summary of 1999-2001 data. King County Department of Natural Resources and Parks, Water and Land Resources Division, Seattle, WA.

Welch, E. B. 1980. Ecological effects of wastewater. Cambridge University Press. Cambridge England.

Wetzel, Robert G. 1975. Limnology. Second Edition. Michigan State University. Saunders College Publishing. New York, NY.

Wetzel, Robert G. 2001. Limnology. Third Edition. Academic Press. San Diego CA.





## Appendix A.

# Sampling and Analysis Plan

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**EXISTING CONDITIONS OF THE TOLT AND  
SNOQUALMIE RIVERS NEAR THE CITY OF  
CARNATION**

**SAMPLING AND ANALYSIS PLAN**

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**Prepared for the  
King County Wastewater Treatment Division**



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**March 12, 2003**

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**NAME OF PROJECT:** EXISTING CONDITIONS OF THE TOLT AND SNOQUALMIE RIVERS  
NEAR THE CITY OF CARNATION

**PROJECT NUMBER:** 423557

**SAP PREPARED BY:** Dean Wilson and Ben Budka  
King County Department of Natural Resources and Parks  
Water and Land Resources Division

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Dean Wilson, Project Manager, Existing Water Quality  
Conditions Study  
Water and Land Resources Division

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Date

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Ben Budka, Laboratory Project Manager  
King County Environmental Laboratory

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Date

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John Komorita, Project Manager, Carnation Wastewater  
Treatment Plant, Siting and Construction.  
King County, Wastewater Treatment Division

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Date

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Colin Elliott, QA Officer  
King County Environmental Laboratory

---

Date

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# Introduction

## 1.1 Project Background

The King County Wastewater Treatment Division (WTD) has agreed to build a new wastewater treatment plant for the City of Carnation. The plant will have flows of less than 1 million gallons per day. Several treatment options are under consideration, although membrane filtration looks likely. Several discharge options are under consideration, including discharge via an outfall to the Snoqualmie River, discharge to a constructed wetlands, groundwater recharge, agricultural reuse, or some combination of these. John Komorita is the project manager for WTD. Carrollo Engineers is the siting and engineering consultant, with Adolfson Associates as a sub consultant for EIS development. Treatment options, site options, and discharge options will be evaluated this year, with a draft EIS issued by the end of December 2003. Final EIS is scheduled for release in mid-2004. Project permits will be applied for in 2004/2005. The wastewater treatment plant and outfall construction will occur in 2005/2006. Operation of the wastewater treatment plant (WWTP) will begin in 2006/2007.

This document describes the plan for characterizing water quality as part of the Carnation Wastewater Treatment Plant Outfall Siting Study.

## 1.2 Project Objectives

Objectives for the entire outfall siting study are as follows:

1. Describe baseline water quality characteristics (chemical and microbiological) of Snoqualmie River and Tolt River near Carnation to support site selection, discharge method evaluation, EIS development, and permit application.
2. Coordinate with the Carnation WWTP siting, engineering, and EIS teams to support the evaluation effluent discharge options.

## **Study Design**

Project objectives are to characterize the water quality of the Snoqualmie and Tolt Rivers near the City of Carnation, to obtain baseline information, and evaluate the concentration and distribution of potential contaminants of concern.

### **2.1 Study Area**

The study area includes the Lower Tolt River adjacent to the City of Carnation, the Snoqualmie River just upstream of its confluence with the Tolt (adjacent to the Tolt Hill Road Bridge), and downstream on the Snoqualmie River past the City of Carnation near Chinook Bend.

### **2.2 Statistical Data Quality Objectives**

Data collected by the Department of Ecology as part of their long-term monitoring program will be evaluated. Ecology has collected various conventional parameters sporadically from three stations on the Tolt and Snoqualmie Rivers near Carnation. One station is located on the Tolt River and two stations are located on the Snoqualmie River. Records indicate the dataset at one station on the Snoqualmie near Carnation began in the late 1940s. The dataset from the other two stations began and ended in the 1990s. Identifying time related changes will be attempted using this data. Confidence levels will be established then new data will be collected as part of this study to establish any new changes to water quality a treatment plant discharge may cause.

Metals and organics data has not been collected historically in the study area. New data collected for these parameters as part of this study will be used to establish the probability of detecting these parameters. After sufficient data are collected, an attempt will be made to establish data quality objectives for future monitoring on the rivers.

### **2.3 Spatial Data Quality Objectives**

Water quality and sediment chemistry will be assessed at three stations.

- One station will be on the Tolt River near its confluence with the Snoqualmie River.
- One station will be located on the Snoqualmie River above its confluence with the Tolt River.
- One station located on the Snoqualmie River below the City of Carnation near Chinook Bend.

Additional coverage may be available through coordination with and the use of data from the Department of Ecology's ambient monitoring program and special study to develop TMDLs on the Snoqualmie River.



## Project Team and Responsibilities

Project team members and their responsibilities are summarized in the table below. All team members are staff of the King County Department of Natural Resources and Parks.

**Table 1: Project Team Members and Responsibilities.**

Name/Telephone	Title	Affiliation	Responsibility
Ben Budka (206) 684-2328	Laboratory Project Manager	Environmental Laboratory	Coordination of sampling and analytical activities, laboratory QA/QC and data reporting
Jean Power (206) 684-2393	Environmental Specialist	Environmental Laboratory	Water quality sampling
Colin Elliott (206) 684-2343	Quality Assurance Officer	Environmental Laboratory	Overall analytical and field QA/QC
Dean Wilson (206) 296-8252	Senior Water Quality Planner	Science, Monitoring and Data Management	Study Manager
Benjamin Mendoza (206) 684-2361	Conventional Chemist	Environmental Laboratory	Lead for Conventional chemistry
Karl Bruun (206) 684-2378	Microbiologist	Environmental Laboratory	Lead for Microbiology
Diane McElhany (206) 684-2304	Organic Chemist	Environmental Laboratory	Lead for Trace Organic chemistry
Erica Salnick (206) 684-2386	Metals Chemist	Environmental Laboratory	Lead for Trace Metals chemistry
Jim Buckley (206) 684-2314	Aquatic Toxicologist	Environmental Laboratory	Lead for Aquatox biology
John Komorita (206) 263-6522	Project Manager	Wastewater Treatment Division	Lead for WTD

## Schedule

Sampling will occur monthly from February 2003 to January 2004. Table 2 describes the sampling schedule.

**Table 2: Sampling Schedule**

Analyte	Water Quality		
	Monthly	Quarterly	One Time Event
<b>Conventional:</b>			
Ammonia Nitrogen	X		X
Nitrate + Nitrite Nitrogen	X		
Orthophosphate Phosphorus	X		
Silica Silicate	X		
Total Nitrogen	X		
Total Phosphorus	X		X
Total Suspended Solids	X		
Alkalinity	X		
Chlorophyll a	X		
Phaeophytin a	X		
Turbidity	X		
Total Organic Carbon (TOC)	X		X
Dissolved Organic Carbon (DOC)	X		
Particle Size Distribution			X
Total Solids			X
Extractable Phosphorous			X
Total Sulfides			X
<b>Aquatic Toxicology:</b>			
Ethinylestradiol - ELISA		X	
Estradiol-ELISA		X	
<b>Microbiology:</b>			
Escherichia coli	X		
Fecal Coliforms	X		
<b>Trace Organics:</b>			
BNA-LVI		X	X
Chlorinated Pesticides		X	X
PCBs		X	X
Organophosphorus Pesticides		X	X
Chlorinated Herbicides		X	X
EDC-LVI		X	
Total Petroleum Hydrocarbons			X

Analyte	Surface Water		
	Monthly	Quarterly	
<b>Trace Metals:</b>			
Arsenic*		X	
Cadmium		X	
Chromium		X	
Copper		X	
Lead		X	
Nickel		X	
Zinc		X	
Mercury		X	
Aluminum		X	
Iron		X	
Calcium		X	
Magnesium		X	
Hardness		X	
<b>Environmental Services:</b>			
Personnel	X		
PH, Field	X		
Conductivity, Field	X		
Dissolved Oxygen, Field	X		
Sample Temperature	X		
Time	X		
Sample Depth			
Sediment Depth			
Sediment Type			
Sediment Sample Range			

\* Water samples will be analyzed for total and dissolved metals.

## **Sample Design**

### **5.1 Water Quality**

All conventional and microbiological water samples will be collected monthly from February 2003 to January 2004. Quarterly trace metals, trace organics, and aquatic toxicology samples will be collected March/June/Sept/Dec 2003.

There will be no storm water sampling during this project.

Samples will be collected by grab. The schedule may be adjusted during the year when conditions such as flooding cause the river to be unsafe thereby impairing the safety of the environmental scientist during sampling activities. Decisions on schedule adjustments will be made jointly between the sampler, Dean Wilson, and Ben Budka.

### **5.3 Parameters**

Water and sediment parameters can be reviewed in Tables 4-11.

### **5.4 Laboratory Data Quality Objectives**

#### **5.4.1 Precision, Accuracy and Bias**

Precision, accuracy and bias for analytical chemistry and microbiology may be measured by one or more of the following quality assurance/quality control (QA/QC) procedures:

- Collection and analysis of field replicate samples (field replicates should show a relative percent difference of less than 150 percent).
- Collection of a field blank (results should be <MDL for all appropriate parameters)
- Analysis of various laboratory QC samples such as method blanks, matrix spikes, certified reference materials, and laboratory duplicates or triplicates. Due to the small number of samples being collected for this study, microbiology lab duplicates should have a relative percent difference (RPD) of 10% or less.

#### **5.4.2 Representativeness**

Samples are to be collected in such a manner as to minimize potential contamination and other types of degradation in the chemical and physical composition of the water. Following guidelines for sampler decontamination, sample acceptability criteria and

sample processing will help ensure that samples are representative. Proper preservation and storage of samples and preparation for analysis achieve laboratory representativeness.

#### **5.4.3 Completeness**

Sampling in favorable conditions and at the appropriate time, along with adherence to standardized sampling and testing protocols, will aid in providing a complete set of data for this project. The goal for completeness is 100%. The samples from each event should produce greater than 90% acceptable chemical and biological data under the QC conditions described elsewhere in this SAP.

#### **5.4.4 Comparability**

Comparability is achieved through use of standard techniques to collect and analyze representative samples, along with standardized data validation and reporting procedures. Changes or updates to analytical methods and sampling techniques midway into the project must be validated and shown to be equivalent to existing methods before being implemented.

## **Sample Collection Procedures**

This section describes sample collection procedures that will be followed through the project to help ensure that project data quality objectives are met. Included in this section are health and safety requirements, station positioning, sample collection, processing procedures, and field documentation.

### **6.1 Health and Safety Requirements**

The following general health and safety guidelines have been provided in lieu of a site-specific Health and Safety Plan. These guidelines will be read and understood by all members of the sampling crew prior to any sampling activities.

- If any boat use is necessary, all crew will have the most updated training for vessel safety, including proper chain of communication, equipment operation, and safe boating practices.
- Sampling personnel will wear chemical-resistant gloves whenever coming into contact with water and sediment.
- No eating, drinking, smoking, or tobacco chewing by sampling personnel will be allowed during active sampling operations.
- All sampling operations will be conducted during daylight hours.
- All accidents, "near misses," and symptoms of possible exposure will be reported to the sampler's supervisor and Lab Project Manager within 24 hours of occurrence.

- All sampling personnel will be clearly identified by wearing an orange vest and any other necessary safety gear during sample collection.
- All sampling personnel will be aware of the potential hazards associated with chemicals used during the sampling and preservation effort.

Several hazards are inherent to sediment sampling. Physical hazards unique to sediment grab sampling and chemical hazards are discussed in **Section 6.4**.

## 6.2 Station Positioning

The water quality study will assess spatial differences in water quality characteristics over the study area. Sampling will occur at or near public access points. The river sampling locators are described with street addresses, nearby structures and coordinates. Detailed driving directions, which include sampling instructions, allow field personnel to accurately find and properly sample the proper station for each event. These documents are kept and maintained by the ESS Technical Coordinator (TC) responsible for this project.

## 6.3 Geographical Sample Locations

Three sampling locations have been identified within the study area.

**Table 3 Station Name, Locator ID, and Coordinates (NAD83)**

Station Name	Locator ID	Easting (ft) (x)	Northing (ft) (y)
Tolt River-near Hwy 203 bridge	TOLT569D2	1373495.92	234600.57
Snoqualmie River-Upstream of confluence with Tolt River	SNOQ569CZ	1370653.97	235106.91
Snoqualmie River –Downstream of confluence with Tolt River below Chinook Bend	SNOQ539CS	1372172.38	245613.97

## 6.4 River Sampling

### 6.4.1 River Sampling Methodologies, Water

Water quality samples will be collected by the grab method by hand dipping. This method is described in King County Environmental Lab’s “River and Stream Water Sampling” SOP #02-02-004-000. Water flow and depth determine the method used and the order of priority is hand dipping, Richard bottle and lastly, a bucket.

Grab samples will be collected while facing upstream to minimize contamination from field equipment. Sampling personnel will wear clean PVC gloves including a pair of

shoulder length gloves for personal protection and to prevent contamination of the samples.

#### **6.4.2 River sampling Equipment**

Before each sampling event, gear will be prepared, cleaned and ready for use including the following:

- Set of sample bottles: Conventional/Microbiology
  - Fieldsheets with clipboard and waterproof pens
  - Richards sampler
  - Sample bucket w/ line
  - Hydrolab with calibrated sonde and datalogger
  - Ice chest w/ ice and barrier
  - Field clothes/safety gear including orange vest
  - Life Vest
  - Set of sample bottles: Trace Metals/Trace Organic/Aquatic Toxicology\*
- \*Quarterly

### **6.5 Field QC**

Field measurements will be taken at each sampling location either just prior or just after grab sampling for chemical and microbiological analysis. A Hydrolab Mini sonde will be used to analyze the river for temperature, pH, specific conductance and dissolved oxygen. The field meter will be calibrated according to Environmental Support Services (ESS) Standard Operating Procedure (SOP # 02-01-005) within 24 hours of the sampling event.

Field replicates are collected using the exact same methodology as the original samples, as close temporally to the original sample as possible. The field replicate is not distinguishable from the original sample (same locator name is used and the same parameters are analyzed) except by sample number and collection time.

#### **6.5.1 Calibration**

The Hydrolab requires daily calibration and the instructions are included in “Attended Hydrolab Multiprobe Operation” SOP #02-01-005-002. See “Sampling Methods for Stream and River Sampling” SOP #02-02-004-001. Other field equipment does not require calibration. Hydrolab data are stored in the data logger and are written on the fieldsheet.

### **6.6 Sample Documentation**

Appropriate field measurements and observations will be recorded on field notes and as needed stored on the Hydrolab data logger. Sediment sampling observations may include

sample color, gross grain size distribution, odor, sheen, and the presence of surficial debris such as plant or animal material. If surficial or other debris is removed prior to collection of the sample, it will be noted in the field notes for that sample.

#### **6.6.1 Sample Numbers and Labels**

Unique sample numbers will be assigned to each sampling location. Sample numbers will be assigned prior to the sampling event and the labels generated for each sample container will be affixed to bottles prior to departure from the laboratory (see section 7.1).

#### **6.6.2 Field Notes**

Field notes will be maintained for all field activities for the collection of samples and the gathering of environmental data. Field notes will be kept on water-resistant paper and all field documentation will be recorded in indelible, black ink. Field notes will be recorded on pre-printed field sheets prepared specifically for this project. Information recorded on field notes will include, but not be limited to:

- Name of recorder,
- Sample or station and replicate number,
- Sample station locator information
- Sediment notes including depth of sediment sampled, sample depth (water depth above the surface of the sediment), date and time of sample collection (all times will be recorded for multiple sampler deployments).
- Physical characteristics of sediment such as color, gross grain size distribution, debris, and odor,

Information that may be recorded on the field sheets includes sampling methodology and any deviations from established sampling protocols. Additional anecdotal information pertaining to observations of unusual sampling events or circumstances may also be recorded on the field sheets.

## **Sample Handling Procedures**

Consistent sample handling procedures are necessary to maintain sample integrity and provide data that is as defensible and as high a quality as possible under the sampling conditions. This section provides requirements for proper sample containers, labeling, preservation, storage, and chain-of-custody practices.



## **7.1 Sample Containers and Labels**

All samples will be collected into pre-cleaned, laboratory-supplied containers affixed with computer-generated labels. Information contained on sample labels will include a unique sample number; information about the sampling location; the collection date; the requested analyses; and information about any chemical used in sample preservation. Sample containers required for the various analyses are summarized in Table 4-11.

## **7.2 Sample Delivery**

Samples should be delivered to the analytical laboratory immediately after completion of sampling. This minimizes the number of people handling samples and protects sample quality and security. All samples are to be placed in a cooler with ice and a plastic barrier. This will keep the samples at or near the required 4° C until they arrive at the lab.

At the analytical laboratory, the sample manager should oversee:

- Receipt of samples
- Maintenance of sample management records
- Maintenance of sample tracking logs
- Distribution of samples for laboratory analyses
- Supervision of labeling and log keeping.

Upon receipt of samples, the sample manager should fill out the Chain of Custody (COC) stamp on the fieldsheets, indicating time and date of receipt, sample numbers and all signatures. The sample manager should also verify correct time, date and signature of field personnel on fieldsheet COC stamp. The Sample Delivery Logbook is to be checked by the sample manager and to verify that the field personnel signed in the samples. The sample manager should verify that all samples have been received and should also sign the Sample Delivery Logbook. Any irregularities indicating that sample security or quality may have been jeopardized (e.g., evidence of tampering, loose lids, cracked sample containers, improper preservation) should be noted on a Compromised Sample Record. A Sample Receipt Quality Assurance Record is to be completed by the sample manager following sample receipt and preservation.

## **7.3 Sample Preservation and Storage Requirements**

All samples will be refrigerated at a temperature of approximately 4° C, frozen, or preserved in another appropriate manner. Sample preservation requirements and storage conditions as well as analytical holding times are summarized in Table 4-11.

## **7.4 Chain of Custody Procedures**

During sample collection, all sample containers will be either secured in a sampling vehicle or in the custody of the sampling personnel. After collecting the samples, field personnel will deliver all samples to laboratory's Sample Receiving area and enter them into the Sample Receiving Logbook, as described in ESS SOP # 01-01-003-001 (Sample

Management). The possession of the samples by the lab is effective at the time the Logbook is signed by sampling personnel and the lab sample manager. Transfer of custody from the field to the lab is to be documented by completing either a Lab Work Order form or the Chain of Custody stamp added to the field sheets.

## **7.5 Sample Retention and Disposal**

The laboratory will hold, where practical, any unused sample that has not exceeded holding time for at least 30 days after the release of results. Unused samples categorized as hazardous according to state or federal guidelines will either be returned to the client or special arrangements will be made to dispose of the samples at the laboratory.

## **Laboratory Analytical Methods**

Adherence to standardized analytical protocols and associated QA/QC guidelines for both chemical and biological testing will help produce data able to meet the project goals and objectives.

### **8.1 Chemical Testing**

This section presents the chemical and microbiological analytical methodologies that will be employed during this project, along with associated detection limits. The King County Environmental Laboratory distinguishes between a *method* detection limit (MDL) and a *reporting* detection limit (RDL).

- The MDL is defined as *the minimum concentration of a chemical constituent that can be detected*.
- The RDL is defined as the minimum concentration of a chemical constituent that can be reliably quantified.

#### **8.1.1 Conventional Analyses and Detection Limits, Water**

Conventional analyses, analytical methods, and associated detection limits are summarized in Table 4. All conventional analyses will be performed at the King County Environmental Laboratory.

## Conventionals

**Table 4 Conventional Parameters, Methods, Detection Limits, Sample Storage Containers, Preservation, and Hold Times**

Analyte	Method	MDL (mg/L)	RDL (mg/L)	Container	Preservation	Holding Time
Ammonia Nitrogen	SM 4500-NH <sub>3</sub> -G	0.010	0.020	125 mL HDPE CWM <sup>1</sup>	Filter and Freeze @ -20 °C	14 days @ -20°C**
Nitrate+Nitrite Nitrogen	SM 4500-NO <sub>3</sub> -F	0.020	0.040	125 mL HDPE CWM <sup>1</sup>	Filter and Freeze @ -20 °C	14 days @ -20°C**
Orthophosphate Phosphorus	SM 4500-P-F	0.002	0.005	125 mL HDPE CWM <sup>1</sup>	Filter and Freeze @ -20 °C	14 days @ -20°C**
Silica Silicate	Whitlege 1981	0.05	0.1	125 mL HDPE CWM <sup>1</sup>	Filter and Freeze @ -20 °C	14 days @ -20°C**
Total Nitrogen	SM 4500-N-C	0.050	0.100	125 mL HDPE CWM <sup>1</sup>	Refrigerate, 4 °C	2 days w/o pres.; 28d H <sub>2</sub> SO <sub>4</sub> , pH<2; 28 days @ -20°C
Total Phosphorus	SM 4500-P-B, FMOD	0.005	0.010	125 mL HDPE CWM <sup>1</sup>	Refrigerate, 4 °C	2 days w/o pres.; 28d H <sub>2</sub> SO <sub>4</sub> , pH<2; 28 days @ -20°C
Total Suspended Solids	SM 2540 D	0.5	1	1 L HDPE CWM	Refrigerate, 4 °C	7 days
Alkalinity	SM 2320-B	0.2	10	500 mL HDPE CWM <sup>2</sup>	Refrigerate, 4 °C	14 days
Chlorophyll a	EPA 446.0	0.0005	0.001	1 L HDPE, AWM	Refrigerate, 4 °C	Filter within 1 day of collection 28 days
Phaeophytin a	EPA 446.0	0.001	0.002	1 L HDPE, AWM	Refrigerate, 4 °C	Filter within 1 day of collection 28 days
Turbidity	SM 2130-B	0.5 NTU	2 NTU	500 mL HDPE CWM <sup>2</sup>	Refrigerate, 4 °C	2 days
Total Organic Carbon (TOC)	SM 5310-B	0.5	1.0	40 mL Amber Glass VOA	H <sub>3</sub> PO <sub>4</sub> , pH <2, Refrigerate, 4 °C	28 days
Dissolved Organic Carbon (DOC)	SM 5310-B	0.5	1.0	125 mL Amber HDPE CNM	H <sub>3</sub> PO <sub>4</sub> , pH <2, Refrigerate, 4 °C	Filter within 1 day of collection 28 days

<sup>1</sup> All nutrients products for a sample can be collected in a single 125 mL HDPE CWM.

<sup>2</sup> All physicals products for a sample can be collected in a single 500 mL HDPE CWM.

### 8.1.3 Metal Analyses and Detection Limits

Target elements, analytical methods and associated detection limits are summarized in Table 6. Sample collection methods and methods of analysis are designed to achieve the project goals. The King County Environmental Laboratory will perform all metals analyses. Samples will be analyzed for mercury by Cold Vapor Atomic Absorption Spectroscopy (CVAA). All other elements will be analyzed for by either Inductively-Coupled Plasma Optical Emission Spectroscopy (ICP-OES) or Inductively Coupled Plasma Mass Spectroscopy (ICP-MS), depending upon the concentration of the element in the samples.

### Trace Metals

**Table 5 Metals Parameters, Methods, Detection Limits, Sample Storage Containers, Preservation, and Holding Times**

Analyte	Method	MDL (mg/L)	RDL (mg/L)	Container	Preservation	Holding Time
Total & Dissolved Arsenic	ICP-MS (EPA 200.8)	0.0005	0.0025	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Cadmium	ICP-MS (EPA 200.8)	0.0001	0.0005	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Chromium	ICP-MS (EPA 200.8)	0.0004	0.002	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Copper	ICP-MS (EPA 200.8)	0.0004	0.002	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Lead	ICP-MS (EPA 200.8)	0.0002	0.001	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Nickel	ICP-MS (EPA 200.8)	0.0003	0.0015	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Zinc	ICP-MS (EPA 200.8)	0.0005	0.0025	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Mercury	CVAA (EPA 245.1), Low Level	0.000005	0.000015	Pre-cleaned Teflon	HCl, pH <2	28 days
Total & Dissolved Aluminum	ICP-OES (EPA 200.7)	0.1	0.5	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Iron	ICP-OES (EPA 200.7)	0.05	0.25	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days

Total & Dissolved Calcium	ICP-OES (EPA 200.7)	0.05	0.25	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Total & Dissolved Magnesium	ICP-OES (EPA 200.7)	0.03	0.15	500 mL HDPE, acid washed,	HNO <sub>3</sub> , pH <2	180 days
Hardness	ICP-OES (EPA 200.7) and SM 2340-B	0.2	1.25			

A separate bottle is collected for each total and dissolved fraction. The total metals samples are preserved upon arrival at the lab. The dissolved metals samples are filtered through 0.45µm membrane filter prior to preservation. Samples must be preserved within 24 hours of collection.

### 8.1.5 Trace Organic Analyses and Detection Limits

Organic analyses, methodologies, and associated detection limits are summarized in Table 8. All organic analyses will be performed by the King County Environmental Laboratory except for the Chlorinated Herbicides, which will be subcontracted to Severn Trent Laboratories in Tacoma, Washington.

### Trace Organics

**Table 6 Organic Parameters, Methods, Detection Limits, Sample Storage Containers, Preservation, and Holding Times**

Analyte	Method	MDL (ug/L)	RDL (ug/L)	Container	Preservation	Holding Time
BN-LVI	EPA 3520C/8270C LVI	.010-.75	.025-5.0	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze
A-LVI	EPA 3520C/8270C LVI	.050-1.5	.20-5.0	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze
Chlorinated Pesticides	EPA 3520C/608	.005-.050	.010-.10	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze
PCBs	EPA 3520C/608	.050	.100	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze
Organophosphorus Pesticides	EPA 3520C/8270C SIM	.027-.048	.050	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze
Chlorinated Herbicides	SW 846 3510C/8151A GC/MS modified	.016-.046	.08-.16	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze

EDC-LVI	EPA 3520C/8270C SIM LVI	.010-.10	.025-.50	1-L amber glass	Refrigerate, 4°C	7 days to extract, 40 days to analyze
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### 8.1.7 Aquatic Toxicology Analyses and Detection Limits

The Aquatic Toxicology Unit will analyze ELISA samples on a quarterly basis. The Aquatox analyses, methodologies, and associated detection limits are summarized in Table 10.

### Aquatic Toxicology

**Table 7 Aquatox Parameters, Methods, Detection Limits, Sample Storage Containers, Preservation, and Holding Times**

Analyte	Method	MDL (ng/L)	RDL (ng/L)	Container	Preservation	Holding Time
Estradiol - ELISA	KCEL SOP 04-02-013	20 ng/L	20 ng/L	500 ml HDPE amber narrow mouth	Refrigerate, 4 °C	7 Days
Ethynylestradiol-ELISA	KCEL SOP 04-02-014	30 ng/L	30 ng/L	500 ml HDPE amber narrow mouth	Refrigerate, 4 °C	7 Days

### 8.1.8 Microbiology Analyses and Detection Limits

Microbiology analyses, methodologies, and associated detection limits are summarized in Table 11. The King County Environmental Laboratory will perform all microbiology analyses.

### Microbiology

**Table 8 Microbiology Parameters, Methods, Detection Limits, Sample Storage Containers, Preservation, and Holding Times**

Analyte	Method	MDL	RDL	Container	Preservation	Holding Time
Escherichia coli	METRO MC SOP 6.5.1			500-mL PP (sterile)	Refrigerate, 4°C	24 hours
Fecal Coliforms	SM 9222 ED.17			500-mL PP (sterile)	Refrigerate, 4°C	24 hours

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# Quality Control (QC) Practices

## 9.1 QC Practices for Chemistry Analysis

### 9.1.1 Conventional

Laboratory QC samples for conventional analyses and associated control limits are summarized below. These QC samples will be analyzed at a frequency of one per analytical batch of 20 or fewer samples.

**Table 9: Conventional QC**

Conventional				
Water Samples	QC Sample			
Parameter	Method Blank	Lab Duplicate RPD (%)	Matrix Spike Recovery (%)	Lab Control Sample Recovery (%)
		-	-	-
Ammonia Nitrogen	<MDL	20	75-125	85-115
Nitrate+Nitrite Nitrogen	<MDL	20	75-125	85-115
Orthophosphate Phosphorus	<MDL	20	75-125	85-115
Silica as Silicate	<MDL	20	65-120	85-115
Total Phosphorus	<MDL	20	75-125	85-115
Total Nitrogen	<MDL	20	75-125	85-115
Total Suspended Solids	<MDL	25	N/A	80-120
Alkalinity	N/A	10	N/A	85-115
Chlorophyll a	<MDL	25	N/A	N/A
Phaeophytin a	<MDL	50	N/A	N/A
Turbidity	N/A	20	N/A	90-110
Total Organic Carbon (TOC)	<MDL	20	75-125	85-115
Dissolved Organic Carbon (DOC)	<MDL	20	75-125	85-115

Conventional



Sediment Samples (QA1 limits for sediments in brackets if different)				
	<i>QC Sample</i>			
<b>Parameter</b>	<i>Method Blank</i>	<i>Lab Triplicate RSD (%)</i>	<i>Matrix Spike Recovery (%)</i>	<i>Lab Control Sample<sup>1</sup> Recovery (%)</i>
Ammonia Nitrogen	<MDL	20	75-125	80-120
Total Phosphorus	<MDL	20	70-130	80-120
Total Organic Carbon	<MDL	20	70-130	80-120
Particle Size Distribution.	N/A	20	N/A	N/A
Total Solids	<MDL	20	N/A	N/A
Acid Volatile Sulfides (AVS)	<MDL	20	75-125	80-120
Extractable Phosphorus	<MDL	20	70-130	80-120
Total Sulfides	<MDL	20	65-135	65-135

1: This may be an SRM, LCS or SB depending on method

### 9.1.2 Metals

Laboratory QC samples for trace metals analyses and associated control limits are summarized below. These QC samples will be analyzed at a frequency of one per analytical batch of 20 or fewer samples.

**Table 10: Metals QC**

Metals				
Water Samples	<i>QC Sample</i>			
<b>Parameters</b>	<i>Method Blank</i>	<i>Lab Duplicate %RPD</i>	<i>Matrix Spike and Spike Blank %Recovery</i>	<i>Lab Control Sample %Recovery</i>
Total and Dissolved Metals (except Mercury)	<MDL	20%	80-120	80-120
Total and Dissolved Mercury	<MDL	20%	80-120	80-120
Hardness	<MDL	20%	80-120	80-120

Metals
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Sediment and Soil Samples	QC Sample			
Parameters	Method Blank	Lab Duplicate %RPD	Matrix Spike and Spike Blank %Recovery	SRM %Recovery
Total Metals (except Mercury)	<MDL	20%	75-125%	75-125%*
Total Mercury	<MDL	20%	75-125%	75-125%**

\*For Sediments qualified according to QA1 practices, only an upper acceptance limit of 120% is applied.

\*\* For Sediments qualified according to QA1 practices, the acceptance limits are 80 to 120%.

### 9.1.3 Trace Organics:

Laboratory QC samples for trace organic analyses and associated control limits are summarized below. These QC samples will be analyzed at a frequency of one per analytical batch (no more than 20 samples).

**Table 11: Organics QC**

Organics			
Water Samples	QC Sample		
Parameter	Method Blank	Matrix Spike and Spike Blank % Recovery	Surrogate %Recovery
<b>Semi-Volatile Organics (BNAs)*</b>			
Phenol	<MDL	12-110	N/A
2-Chlorophenol	<MDL	27-123	N/A
1,4-Dichlorobenzene	<MDL	36-97	N/A
N-Nitroso-di-N-Propylamine	<MDL	41-116	N/A
1,2,4-Trichlorobenzene	<MDL	39-98	N/A
4-chloro-3-Methylphenol	<MDL	23-97	N/A
Acenaphthene	<MDL	46-118	N/A
4-Nitrophenol	<MDL	10-80	N/A
2,4-Dinitrotoluene	<MDL	24-96	N/A
Pentachlorophenol	<MDL	9-103	N/A
Pyrene	<MDL	26-127	N/A
2-Fluorophenol Surrogate	N/A	N/A	21-110
D5-Phenol Surrogate	N/A	N/A	10-110

D5-Nitrobenzene Surrogate	N/A	N/A	35-114
D4-2-Chlorophenol Surrogate	N/A	N/A	33- 110
D4-1,2-Dichlorobenzene Surrogate	N/A	N/A	16-110
2-Fluorobiphenyl Surrogate	N/A	N/A	43-116
2,4,6-Tribromophenol Surrogate	N/A	N/A	10-123
D14-Terphenyl Surrogate	N/A	N/A	33-141
<b>Chlorinated Pesticides and PCBs*</b>			
Gamma-BHC	<MDL	46-127	N/A
Heptachlor	<MDL	35-130	N/A
Aldrin	<MDL	34-132	N/A
Dieldrin	<MDL	31-134	N/A
Endrin	<MDL	42-139	N/A
4,4'-DDT	<MDL	23-134	N/A
Aroclor 1016	<MDL	50-150	N/A
Aroclor 1260	<MDL	50-150	N/A
Tetrachloro-m-Xylene Surrogate	N/A	N/A	50-150
Decachlorobiphenyl Surrogate	N/A	N/A	50-150
<b>Organo-Phosphorus Pesticides</b>			
Phorate	<MDL	50-150	N/A
Diazinon	<MDL	50-150	N/A
Disulfoton	<MDL	50-150	N/A
Parathion-Methyl	<MDL	50-150	N/A
Malathion	<MDL	50-150	N/A
Chlorpyrifos	<MDL	50-150	N/A
Parathion-Ethyl	<MDL	50-150	N/A
Chlorpyrifos-d10 Surrogate	N/A	N/A	50-150
<b>Chlorinated Herbicides</b>			
Dalapon	<MDL	*	N/A
Dicamba	<MDL	*	N/A
MCPP	<MDL	*	N/A
MCPA	<MDL	*	N/A
Dichloroprop	<MDL	*	N/A
2,4-D	<MDL	*	N/A
2,4,5-TP (Silvex)	<MDL	*	N/A
2,4,5-T	<MDL	*	N/A
Dinoseb	<MDL	*	N/A

2,4-DB	<MDL	*	N/A
2,4-Dichlorophenylacetic acid surrogate	N/A	N/A	*

\* Severn Trent Laboratory statistically derives and updates these values periodically for liquid and solid matrices.

EDCs			
Total Nonylphenol	<MDL	50-150	N/A
Vinclozolin	<MDL	50-150	N/A
Bisphenol A	<MDL	50-150	N/A
Bis(2-ethylhexyl)adipate	<MDL	50-150	N/A
Estrone	<MDL	50-150	N/A
Estradiol	<MDL	50-150	N/A
Ethynyl Estradiol	<MDL	50-150	N/A
Testosterone	<MDL	50-150	N/A
Methyltestosterone	<MDL	50-150	N/A
Progesterone	<MDL	50-150	N/A
2,4,6-Tribromophenol Surrogate	N/A	N/A	50-150
d14-Terphenyl Surrogate	N/A	N/A	50-150
d3-Testosterone Surrogate	N/A	N/A	50-150

\* Only a representative list of all reportable parameters are used for matrix spikes and spike blanks for this method.

<MDL = Less than the Method Detection Limit (see definitions above)

RPD = Relative Percent Difference

Analysis Frequency: A preparation batch is defined as a group of samples processed at the same time on the same day. A batch is defined as up to 20 samples. All QC listed with acceptance limits in the tables above are performed with each batch of samples.

#### 9.1.4 Aquatic Toxicology

Laboratory QC samples for aquatic toxicology analyses and associated control limits are summarized below. These QC samples will be analyzed at a frequency of one per analytical batch of 20 or fewer samples.

**Table 12: ELISA - Enzyme linked immunosorbent assay**

Estradiol and Ethynylestradiol by ELISA				
Water Samples	QC Sample			
Parameter	Method Blank	Matrix Spike and Spike Blank % Recovery	Matrix Spike Duplicate % RPD	Surrogate % Recovery

Estradiol	TBD	TBD	TBD	TBD
Ethinylestradiol	TBD	TBD	TBD	TBD

Note - QC acceptance limits for ELISA are in development.

## 9.2 QC Practices for Microbiology Analysis

### 9.2.1 Microbiology

Laboratory QC samples for Microbiology analyses and associated control limits are summarized below. These QC samples will be analyzed at a frequency of one per analytical batch (no more than 20 samples).

**Table 13: Microbiology QC**

Water	<i>QC Sample</i>			
<b>Parameter</b>	<i>Filter Blanks (pre and post)</i>	<i>Positive Control</i>	<i>Negative Control</i>	<i>Lab Duplicate RPD</i>
Fecal Coliform and E. coli	<MDL	Target organism identified	Target organism not identified	≤10%

## Data Analysis, Record Keeping, and Reporting

### 10.1 Interpretation of Chemical and Microbiological Data

Analytical results will be used to characterize the water and sediment quality of the Snoqualmie and Tolt Rivers near the City of Carnation, to obtain baseline information, and evaluate the concentration and distribution of potential contaminants of concern.

### 10.2 Quality Assurance Reviews

Chemistry, microbiology and field measurement data will undergo standard QA review within each laboratory group according to the Environmental Laboratory QA document and method-specific SOPs. Data will be flagged accordingly. A description of the laboratory qualifiers is provided in Table 17. The LPM will review the section QC results and provide a summary of the QC information in narrative form. This narrative will accompany the data when it is transmitted to the project and program managers. All reviews will be done on an event basis. This level of QA review is necessary to provide

the project and program managers with the level of information needed to correctly interpret the data.

Sediment data will require QA1 review.

### **10.3 Laboratory Data Qualifiers:**

See Table 14.

**Table 14: Lab data Qualifiers for Water Quality**

General Purpose Qualifiers		Chemistry and Biology Qualifiers		Sediment (QA1) Qualifiers	
Qualifier	Definition	Qualifier	Definition	Qualifier	Definition
B	Blank contamination observed	P	Target parameter present (HCID only)	X	Very low (10%) matrix spike or surrogate recovery
E	Estimated value	J#	Tentatively identified compound (GCMS only). The value entered for # indicates the confidence level of the identification.	G	Low matrix spike, SRM or surrogate recovery
H	a sample handling criteria has been exceeded	>MR	Result exceeds measurable range of either instrument or method * (chemistry only)	L	High matrix spike, SRM or surrogate recovery
R	Rejected, unusable for all purposes	C	Value is an estimate, based on presence of confluent growth (microbiology only)	E	High duplicate RPD or triplicate RSD result
RDL	equal to the reporting detection limit	E	Result is based on an estimation technique (microbiology only)	B	Contamination reported in blank
< RDL	less than the reporting detection limit	> ####	Result exceeds measurable range of the procedure** (biology only) where ### = measurable range		
< MDL	less than the method detection limit	NF	Target organism not recovered or identified or QC failed (microbiology only)		
TA	text information available which qualifies data	P	Target organism identified or QC passes (biology methods)		
		D	Indicates the species was predominant in the population (biology only)		
		S	Indicates the species was second to predominant in the sample (biology only)		
		AD	Adult form of organism identified in sample (biology only)		
		LV	Larval form of organism identified (biology only)		
		PU	Pupa form of organism identified (biology only)		
		< ####	Result below the measurable range of the procedure (BOD analysis only) where ### = measurable range lower limit		

\* >MR indicates the measured response was above the measurable range of the method. The numeric value in the value field is an estimate of the minimum value of the true concentration. This qualifier is used only for chemistry parameters.

\*\* > ### is used for biological tests where the result of the analysis is above the measureable range of the method. The value entered for ### is the upper range of the method. No value is entered in the value field.

#### **10.4 Sample Archiving and Disposal**

The laboratory will hold, where practical, any unused sample that has not exceeded holding time for at least 30 days after the release of results. After that time, the laboratory will dispose of unused samples.

#### **10.5 Record Keeping and Reporting**

The King County Environmental Laboratory will provide a 30-day turnaround time for all analytical data starting upon receipt of the last sample collected per event. Each laboratory section will provide a narrative in the event of analytical anomaly, and an overall narrative describing contents of the complete data package, including any notable information of immediate interest to the recipient, will be prepared by the laboratory project manager (LPM).

Chemistry, microbiology and field measurement data will undergo standard QA review within each laboratory unit according to the Environmental Laboratory QA Manual and method-specific SOPs. Data will be flagged accordingly. The LPM will review the lab unit QC results and provide a summary of the QC information in narrative form. This narrative will accompany the data when it is transmitted to the project and program managers. All reviews will be done on an event basis. Field QC results will be evaluated against lab results for individual samples following the first sampling event. Following this review, corrective actions or adjustments to field procedures may be made. Major adjustments to field procedures would be documented using a revised SAP.



## Appendix B.

### Water Quality Data

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## Appendix B

PROJECT: 423557

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			-Wet Weight Basis						-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis	
<b>COMBINED LABS</b>																				
M=CV EPA446.0 (03-02-002S-003)																				
Chlorophyll-A		<MDL	1	2	ug/L								<MDL	1	2	ug/L				
Phaeophytin		<MDL	2	4	ug/L								<MDL	2	4	ug/L				
M=CV SM2130-B (03-01-011-002)																				
Turbidity	27.2		0.5	2	NTU						8.12		0.5	2	NTU					
M=CV SM2320-B (03-03-001-002)																				
Alkalinity	8.6	<RDL	0.2	10	mg CaCO3/L						12.2		0.2	10	mg CaCO3/L					
M=CV SM2540-D (03-01-009-001)																				
Total Suspended Solids	44.6		1	2	mg/L						19.6		0.5	1	mg/L					
M=CV SM4500-N-C (03-03-013-001)																				
Total Nitrogen	0.248		0.05	0.1	mg/L						0.275		0.05	0.1	mg/L					
M=CV SM4500-NH3-G (03-03-012-002)																				
Ammonia Nitrogen		<MDL	0.01	0.02	mg/L								<MDL	0.01	0.02	mg/L				
M=CV SM4500-NO3-F (03-03-012-002)																				
Nitrite + Nitrate Nitrogen	0.156		0.02	0.04	mg/L						0.209		0.02	0.04	mg/L					
M=CV SM4500-P-B,FMOD(03-03-013-001)																				
Total Phosphorus	0.024		0.005	0.01	mg/L						0.0195		0.005	0.01	mg/L					
M=CV SM4500-P-F (03-03-012-002)																				
Ortho Phosphorus	0.0034	<RDL	0.002	0.005	mg/L						0.0036	<RDL	0.002	0.005	mg/L					
M=CV SM5310-B (03-04-001-002)																				
Dissolved Organic Carbon	4.48		0.5	1	mg/L						2.83		0.5	1	mg/L					
M=CV SM5310-B (03-04-001-003)																				
Total Organic Carbon	5.08		0.5	1	mg/L						3.06		0.5	1	mg/L					
M=CV WHITLEDGE 1981 (03-03-012-002)																				
Silica	1.3		0.1	0.2	mg/L						3.41		0.1	0.2	mg/L					
M=ES NONE																				
Conductivity, Field	21.9				umhos/cm						30.5				umhos/cm					
Dissolved Oxygen, Field	12.1				mg/L						11.4				mg/L					
Field Personnel	SH/JP				none						SH/JP				none					
pH, Field	6.7				pH						6.5				pH					
Sample Function	S				none						S				none					
Sample Start Time	1115				hr						1045				hr					
Sample Temperature, Field	6.5				deg C						8.3				deg C					
M=MC METRO MC SOP 6.5.1																				
Escherichia coli	2				CFU/100ml						68				CFU/100ml					
M=MC SM-9222 D ed.17																				
Fecal Coliform	6				CFU/100ml						68				CFU/100ml					
M=MT EPA 200.7 (06-02-004-002)																				
Aluminum, Dissolved, ICP						0.12	<RDL	0.1	0.5	mg/L								<MDL	0.1	0.5 mg/L

PROJECT: 423557	Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-1 Matrix: FRESH WTR % Solids:	Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-1 Matrix: FILTER WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-2 Matrix: FRESH WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-2 Matrix: FILTER WTR % Solids:
Parameters	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis
Aluminum, Total, ICP	1.93 0.1 0.5 mg/L	2.98 0.05 0.25 mg/L	0.865 0.1 0.5 mg/L	3.84 0.05 0.25 mg/L
Calcium, Dissolved, ICP				
Calcium, Total, ICP	3.35 0.05 0.25 mg/L		3.99 0.05 0.25 mg/L	
Iron, Dissolved, ICP		0.057 <RDL 0.05 0.25 mg/L		<MDL 0.05 0.25 mg/L
Iron, Total, ICP	2.05 0.05 0.25 mg/L		0.916 0.05 0.25 mg/L	
Magnesium, Dissolved, ICP		0.576 0.03 0.15 mg/L		0.718 0.03 0.15 mg/L
Magnesium, Total, ICP	0.987 0.03 0.15 mg/L		0.989 0.03 0.15 mg/L	
M=MT EPA 200.8 (06-03-004&004A-001)				
Antimony, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
Antimony, Total, ICP-MS	<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L	
Arsenic, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		0.00069 <RDL 0.0005 0.0025 mg/L
Arsenic, Total, ICP-MS	<MDL 0.0005 0.0025 mg/L		0.0012 <RDL 0.0005 0.0025 mg/L	
Barium, Dissolved, ICP-MS		0.00162 0.0002 0.001 mg/L		0.00293 0.0002 0.001 mg/L
Barium, Total, ICP-MS	0.00986 0.0002 0.001 mg/L		0.00804 0.0002 0.001 mg/L	
Beryllium, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Beryllium, Total, ICP-MS	<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Cadmium, Dissolved, ICP-MS		<MDL 0.0001 0.0005 mg/L		<MDL 0.0001 0.0005 mg/L
Cadmium, Total, ICP-MS	<MDL 0.0001 0.0005 mg/L		<MDL 0.0001 0.0005 mg/L	
Chromium, Dissolved, ICP-MS		<MDL 0.0004 0.002 mg/L		<MDL 0.0004 0.002 mg/L
Chromium, Total, ICP-MS	0.00249 0.0004 0.002 mg/L		0.0014 <RDL 0.0004 0.002 mg/L	
Cobalt, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Cobalt, Total, ICP-MS	0.00105 0.0002 0.001 mg/L		0.0004 <RDL 0.0002 0.001 mg/L	
Copper, Dissolved, ICP-MS		0.00081 <RDL 0.0004 0.002 mg/L		0.00058 <RDL 0.0004 0.002 mg/L
Copper, Total, ICP-MS	0.00436 0.0004 0.002 mg/L		0.00201 0.0004 0.002 mg/L	
Lead, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Lead, Total, ICP-MS	0.00051 <RDL 0.0002 0.001 mg/L		0.00029 <RDL 0.0002 0.001 mg/L	
Molybdenum, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
Molybdenum, Total, ICP-MS	<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L	
Nickel, Dissolved, ICP-MS		<MDL 0.0003 0.0015 mg/L		<MDL 0.0003 0.0015 mg/L
Nickel, Total, ICP-MS	0.00214 0.0003 0.0015 mg/L		0.0013 <RDL 0.0003 0.0015 mg/L	
Selenium, Dissolved, ICP-MS		<MDL 0.0015 0.0075 mg/L		<MDL 0.0015 0.0075 mg/L
Selenium, Total, ICP-MS	<MDL 0.0015 0.0075 mg/L		<MDL 0.0015 0.0075 mg/L	
Silver, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Silver, Total, ICP-MS	<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Thallium, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Thallium, Total, ICP-MS	<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Vanadium, Dissolved, ICP-MS		0.00036 <RDL 0.0003 0.0015 mg/L		0.00032 <RDL 0.0003 0.0015 mg/L
Vanadium, Total, ICP-MS	0.00495 0.0003 0.0015 mg/L		0.00203 0.0003 0.0015 mg/L	
Zinc, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
Zinc, Total, ICP-MS	0.00394 0.0005 0.0025 mg/L		0.0021 <RDL 0.0005 0.0025 mg/L	
M=MT EPA 245.2 (06-01-004-003)				
Mercury, Dissolved, CVAA		<MDL 0.000005 0.000015 mg/L		<MDL 0.000005 0.000015 mg/L
Mercury, Total, CVAA	0.0000093 <RDL 0.000005 0.000015 mg/L		<MDL 0.000005 0.000015 mg/L	
M=MT SM2340B.ED19 (06-02-004-002)				
Hardness, Calc	12.4 0.2 1.25 mg CaCO3/L		14 0.2 1.25 mg CaCO3/L	

PROJECT: 423557

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
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 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis		
<b>M=OR EPA 3520C/608 (7-3-03-002)</b>																				
4,4'-DDD	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
4,4'-DDE	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
4,4'-DDT	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Aldrin	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Alpha-BHC	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Aroclor 1016	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Aroclor 1221	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Aroclor 1232	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Aroclor 1242	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Aroclor 1248	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Aroclor 1254	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Aroclor 1260	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
Beta-BHC	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Chlordane	<MDL		0.024	0.0472	ug/L						<MDL		0.024	0.0472	ug/L					
Delta-BHC	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Dieldrin	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Endosulfan I	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Endosulfan II	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Endosulfan Sulfate	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Endrin	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Endrin Aldehyde	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Gamma-BHC (Lindane)	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Heptachlor	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Heptachlor Epoxide	<MDL		0.0047	0.00943	ug/L						<MDL		0.0047	0.00943	ug/L					
Methoxychlor	<MDL		0.024	0.0472	ug/L						<MDL		0.024	0.0472	ug/L					
Toxaphene	<MDL		0.047	0.0943	ug/L						<MDL		0.047	0.0943	ug/L					
<b>M=OR EPA 3520C/8270C (7-3-04-001)</b>																				
Chlorpyrifos	<MDL		0.032	0.0472	ug/L						<MDL		0.032	0.0472	ug/L					
Diazinon	<MDL		0.041	0.0472	ug/L						<MDL		0.041	0.0472	ug/L					
Disulfoton	<MDL		0.025	0.0472	ug/L						<MDL		0.025	0.0472	ug/L					
Malathion	<MDL		0.045	0.0472	ug/L						<MDL		0.045	0.0472	ug/L					
Parathion-Ethyl	<MDL		0.042	0.0472	ug/L						<MDL		0.042	0.0472	ug/L					
Parathion-Methyl	<MDL		0.034	0.0472	ug/L						<MDL		0.034	0.0472	ug/L					
Phorate	<MDL		0.031	0.0472	ug/L						<MDL		0.031	0.0472	ug/L					
<b>M=OR EPA 3520C/8270C LVI 7-3-01-004</b>																				
1,2,4-Trichlorobenzene	<MDL		0.0094	0.0472	ug/L						<MDL		0.0094	0.0472	ug/L					
1,2-Dichlorobenzene	<MDL		0.047	0.236	ug/L						<MDL		0.047	0.236	ug/L					
1,3-Dichlorobenzene	<MDL		0.047	0.236	ug/L						<MDL		0.047	0.236	ug/L					
1,4-Dichlorobenzene	<MDL		0.047	0.236	ug/L						<MDL		0.047	0.236	ug/L					
2,4,5-Trichlorophenol	<MDL		0.12	0.236	ug/L						<MDL		0.12	0.236	ug/L					
2,4,6-Trichlorophenol	<MDL		0.047	0.236	ug/L						<MDL		0.047	0.236	ug/L					
2,4-Dichlorophenol	<MDL		0.094	0.236	ug/L						<MDL		0.094	0.236	ug/L					
2,4-Dimethylphenol	<MDL		1.4	4.72	ug/L						<MDL		1.4	4.72	ug/L					
2,4-Dinitrophenol	<MDL		0.94	2.36	ug/L						<MDL		0.94	2.36	ug/L					
2,4-Dinitrotoluene	<MDL		0.047	0.118	ug/L						<MDL		0.047	0.118	ug/L					
2,6-Dinitrotoluene	<MDL		0.047	0.118	ug/L						<MDL		0.047	0.118	ug/L					
2-Chloronaphthalene	<MDL		0.0094	0.0472	ug/L						<MDL		0.0094	0.0472	ug/L					
2-Chlorophenol	<MDL		0.094	0.236	ug/L						<MDL		0.094	0.236	ug/L					
2-Methylnaphthalene	<MDL		0.094	0.472	ug/L						<MDL		0.094	0.472	ug/L					
2-Methylphenol	<MDL		0.24	2.36	ug/L						<MDL		0.24	2.36	ug/L					
2-Nitroaniline	<MDL		0.094	0.189	ug/L						<MDL		0.094	0.189	ug/L					
2-Nitrophenol	<MDL		0.047	0.236	ug/L						<MDL		0.047	0.236	ug/L					
3,3'-Dichlorobenzidine	<MDL		0.71	4.72	ug/L						<MDL		0.71	4.72	ug/L					
3-Nitroaniline	<MDL		0.47	1.18	ug/L						<MDL		0.47	1.18	ug/L					

PROJECT: 423557

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
			-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis				
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L		
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L		
4-Chloroaniline		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L		
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
4-Methylphenol		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L		
4-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L		
4-Nitrophenol		<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L		
Acenaphthene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		
Acenaphthylene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		
Anthracene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L		
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Benzyl Butyl Phthalate	0.017	<RDL	B	0.0094	0.0236	ug/L		0.017	<RDL	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Bis(2-Chloroethyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Bis(2-ethylhexyl)adipate		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L		
Bis(2-Ethylhexyl)Phthalate	1.06	B, G	0.0094	0.0236	ug/L			0.999	B, G	0.0094	0.0236	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L	
Bisphenol A		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L		
Caffeine		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Carbazole		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L		
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Diethyl Phthalate	0.02	<RDL	B	0.0094	0.0236	ug/L		0.022	<RDL	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Dimethyl Phthalate		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Di-N-Butyl Phthalate	0.0632	B	0.0094	0.0236	ug/L			0.08	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Di-N-Octyl Phthalate		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Estrone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Ethinyl estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Fluorene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		
Hexachloroethane		<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L		
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		
Isophorone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Methyltestosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Naphthalene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Nitrobenzene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L		
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L		
Pentachlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L		
Phenanthrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Phenol		<MDL	0.094	0.189	ug/L			0.1	<RDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L	
Progesterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Total 4-Nonylphenol		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L		
Vinclozolin		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		

PROJECT: 423557

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Mar 31, 2003  
 Lab ID: L27808-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			-Wet Weight Basis						-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis	
M=OR SW-846 8151 GCMS MODIFIED																				
2,4,5-T		<MDL	0.051	0.142	ug/L							<MDL	0.052	0.144	ug/L					
2,4,5-TP (Silvex)		<MDL	0.055	0.19	ug/L							<MDL	0.056	0.192	ug/L					
2,4-D		<MDL	0.019	0.095	ug/L							<MDL	0.019	0.0958	ug/L					
2,4-DB		<MDL	0.027	0.095	ug/L							<MDL	0.027	0.0958	ug/L					
Dalapon		<MDL	0.056	0.19	ug/L							<MDL	0.057	0.192	ug/L					
Dicamba		<MDL	0.047	0.142	ug/L							<MDL	0.047	0.144	ug/L					
Dichloroprop		<MDL	0.028	0.095	ug/L							<MDL	0.028	0.0958	ug/L					
Dinoseb		<MDL	0.035	0.095	ug/L							<MDL	0.035	0.0958	ug/L					
MCPA		<MDL	0.045	0.142	ug/L							<MDL	0.045	0.144	ug/L					
MCP		<MDL	0.019	0.095	ug/L							<MDL	0.019	0.0958	ug/L					



## Appendix B

PROJECT: 423557	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FRESH WTR % Solids:	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FILTER WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FRESH WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FILTER WTR % Solids:	Locator: BLANK1 Descrip: Blank1 Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-5 Matrix: BLANK WTR % Solids:
Parameters	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis
Aluminum, Total, ICP	1.03 0.1 0.5 mg/L		0.81 0.1 0.5 mg/L		<MDL 0.1 0.5 mg/L
Calcium, Dissolved, ICP		3.66 0.05 0.25 mg/L		3.79 0.05 0.25 mg/L	
Calcium, Total, ICP	3.87 0.05 0.25 mg/L		3.99 0.05 0.25 mg/L		<MDL 0.05 0.25 mg/L
Iron, Dissolved, ICP		<MDL 0.05 0.25 mg/L		<MDL 0.05 0.25 mg/L	
Iron, Total, ICP	1.03 0.05 0.25 mg/L		0.848 0.05 0.25 mg/L		<MDL 0.05 0.25 mg/L
Magnesium, Dissolved, ICP		0.698 0.03 0.15 mg/L		0.723 0.03 0.15 mg/L	
Magnesium, Total, ICP	0.978 0.03 0.15 mg/L		0.986 0.03 0.15 mg/L		<MDL 0.03 0.15 mg/L
M=MT EPA 200.8 (06-03-004&004A-001)					
Antimony, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.003 mg/L	
Antimony, Total, ICP-MS	<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
Arsenic, Dissolved, ICP-MS		0.00058 <RDL 0.0005 0.0025 mg/L		0.00069 <RDL 0.0005 0.003 mg/L	
Arsenic, Total, ICP-MS	0.00095 <RDL 0.0005 0.0025 mg/L		0.0012 <RDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
Barium, Dissolved, ICP-MS		0.00265 0.0002 0.001 mg/L		0.00296 0.0002 0.001 mg/L	
Barium, Total, ICP-MS	0.00756 0.0002 0.001 mg/L		0.0076 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Beryllium, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Beryllium, Total, ICP-MS	<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Cadmium, Dissolved, ICP-MS		<MDL 0.0001 0.0005 mg/L		<MDL 0.0001 5E-04 mg/L	
Cadmium, Total, ICP-MS	<MDL 0.0001 0.0005 mg/L		<MDL 0.0001 0.0005 mg/L		<MDL 0.0001 0.0005 mg/L
Chromium, Dissolved, ICP-MS		<MDL 0.0004 0.002 mg/L		<MDL 0.0004 0.002 mg/L	
Chromium, Total, ICP-MS	0.0015 <RDL 0.0004 0.002 mg/L		0.0013 <RDL 0.0004 0.002 mg/L		<MDL 0.0004 0.002 mg/L
Cobalt, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Cobalt, Total, ICP-MS	0.00048 <RDL 0.0002 0.001 mg/L		0.00038 <RDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Copper, Dissolved, ICP-MS		0.00065 <RDL 0.0004 0.002 mg/L		0.00057 <RDL 0.0004 0.002 mg/L	
Copper, Total, ICP-MS	0.00224 0.0004 0.002 mg/L		0.0019 <RDL 0.0004 0.002 mg/L		<MDL 0.0004 0.002 mg/L
Lead, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Lead, Total, ICP-MS	0.00029 <RDL 0.0002 0.001 mg/L		0.00028 <RDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Molybdenum, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.003 mg/L	
Molybdenum, Total, ICP-MS	<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
Nickel, Dissolved, ICP-MS		<MDL 0.0003 0.0015 mg/L		<MDL 0.0003 0.002 mg/L	
Nickel, Total, ICP-MS	0.0013 <RDL 0.0003 0.0015 mg/L		0.0013 <RDL 0.0003 0.0015 mg/L		<MDL 0.0003 0.0015 mg/L
Selenium, Dissolved, ICP-MS		<MDL 0.0015 0.0075 mg/L		<MDL 0.0015 0.008 mg/L	
Selenium, Total, ICP-MS	<MDL 0.0015 0.0075 mg/L		<MDL 0.0015 0.0075 mg/L		<MDL 0.0015 0.0075 mg/L
Silver, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Silver, Total, ICP-MS	<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Thallium, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L	
Thallium, Total, ICP-MS	<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L		<MDL 0.0002 0.001 mg/L
Vanadium, Dissolved, ICP-MS		0.00034 <RDL 0.0003 0.0015 mg/L		0.00032 <RDL 0.0003 0.002 mg/L	
Vanadium, Total, ICP-MS	0.00241 0.0003 0.0015 mg/L		0.00193 0.0003 0.0015 mg/L		<MDL 0.0003 0.0015 mg/L
Zinc, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.003 mg/L	
Zinc, Total, ICP-MS	0.0021 <RDL 0.0005 0.0025 mg/L		0.0021 <RDL 0.0005 0.0025 mg/L		<MDL 0.0005 0.0025 mg/L
M=MT EPA 245.2 (06-01-004-003)					
Mercury, Dissolved, CVAA		<MDL 0.000005 0.000015 mg/L		<MDL 0.000005 2E-05 mg/L	
Mercury, Total, CVAA	<MDL 0.000005 0.000015 mg/L		<MDL 0.000005 0.000015 mg/L		<MDL 0.000005 0.000015 mg/L
M=MT SM2340B.ED19 (06-02-004-002)					
Hardness, Calc	13.7 0.2 1.25 mg CaCO3/L		14 0.2 1.25 mg CaCO3/L		

PROJECT: 423557	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FRESH WTR % Solids:	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FILTER WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FRESH WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FILTER WTR % Solids:	Locator: BLANK1 Descrip: Blank1 Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-5 Matrix: BLANK WTR % Solids:																		
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units			
-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis					
M=OR EPA 3520C/608 (7-3-03-002)																							
4,4'-DDD	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
4,4'-DDE	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
4,4'-DDT	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Aldrin	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Alpha-BHC	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Aroclor 1016	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Aroclor 1221	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Aroclor 1232	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Aroclor 1242	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Aroclor 1248	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Aroclor 1254	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Aroclor 1260	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Beta-BHC	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Chlordane	<MDL		0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Delta-BHC	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Dieldrin	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Endosulfan I	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Endosulfan II	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Endosulfan Sulfate	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Endrin	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Endrin Aldehyde	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Gamma-BHC (Lindane)	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Heptachlor	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Heptachlor Epoxide	<MDL		0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L
Methoxychlor	<MDL		0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Toxaphene	<MDL		0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
M=OR EPA 3520C/8270C (7-3-04-001)																							
Chlorpyrifos	<MDL		0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L
Diazinon	<MDL		0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L
Disulfoton	<MDL		0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L
Malathion	<MDL		0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L
Parathion-Ethyl	<MDL		0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L
Parathion-Methyl	<MDL		0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L
Phorate	<MDL		0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L
M=OR EPA 3520C/8270C LVI 7-3-01-004																							
1,2,4-Trichlorobenzene	<MDL		0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L
1,2-Dichlorobenzene	<MDL		0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
1,3-Dichlorobenzene	<MDL		0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
1,4-Dichlorobenzene	<MDL		0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
2,4,5-Trichlorophenol	<MDL		0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L
2,4,6-Trichlorophenol	<MDL		0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
2,4-Dichlorophenol	<MDL		0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L
2,4-Dimethylphenol	<MDL		1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L
2,4-Dinitrophenol	<MDL		0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L
2,4-Dinitrotoluene	<MDL		0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L
2,6-Dinitrotoluene	<MDL		0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L
2-Chloronaphthalene	<MDL		0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L
2-Chlorophenol	<MDL		0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L
2-Methylnaphthalene	<MDL		0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L
2-Methylphenol	<MDL		0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L
2-Nitroaniline	<MDL		0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L
2-Nitrophenol	<MDL		0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
3,3'-Dichlorobenzidine	<MDL		0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L
3-Nitroaniline	<MDL		0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L

PROJECT: 423557	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FRESH WTR % Solids:	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FILTER WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FRESH WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FILTER WTR % Solids:	Locator: BLANK1 Descrip: Blank1 Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-5 Matrix: BLANK WTR % Solids:																								
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units				
			-Wet Weight Basis						-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis						-Wet Weight Basis				
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L
4-Chloroaniline		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
4-Methylphenol		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L
4-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L
4-Nitrophenol		<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L
Acenaphthene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L
Acenaphthylene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L
Anthracene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Benzyl Butyl Phthalate	0.018	<RDL	B	0.0094	0.0236	ug/L			0.023	<RDL	B	0.0094	0.0236	ug/L															
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Bis(2-Chloroethyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Bis(2-ethylhexyl)adipate		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L
Bis(2-Ethylhexyl)Phthalate	0.325	B,G	0.0094	0.0236	ug/L				0.639	B,G	0.0094	0.0236	ug/L																
Bisphenol A	0.12	<RDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L
Caffeine		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Carbazole		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Diethyl Phthalate	0.023	<RDL	B	0.0094	0.0236	ug/L			0.024	B	0.0094	0.0236	ug/L																
Dimethyl Phthalate		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Di-N-Butyl Phthalate	0.0954	B	0.0094	0.0236	ug/L				0.0891	B	0.0094	0.0236	ug/L																
Di-N-Octyl Phthalate		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Estrone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Ethinyl estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Fluorene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
Hexachloroethane		<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
Isophorone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Methyltestosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Naphthalene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Nitrobenzene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L
Pentachlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L
Phenanthrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Phenol	0.12	<RDL	0.094	0.189	ug/L			<MDL	0.094																				

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-3 Matrix: FILTER WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-4 Matrix: FILTER WTR % Solids:						Locator: BLANK1 Descrip: Blank1 Client Loc: Sampled: Mar 31, 2003 Lab ID: L27808-5 Matrix: BLANK WTR % Solids:					
Parameters		Value	Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units					
						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis											
M=OR SW-846 8151 GCMS MODIFIED																																			
2,4,5-T		<MDL		0.052	0.143	ug/L							<MDL							0.051	0.142	ug/L													
2,4,5-TP (Silvex)		<MDL		0.055	0.191	ug/L							<MDL							0.055	0.19	ug/L													
2,4-D		<MDL		0.019	0.0953	ug/L							<MDL							0.019	0.095	ug/L													
2,4-DB		<MDL		0.027	0.0953	ug/L							<MDL							0.027	0.095	ug/L													
Dalapon		<MDL		0.056	0.191	ug/L							<MDL							0.056	0.19	ug/L													
Dicamba		<MDL		0.047	0.143	ug/L							<MDL							0.047	0.142	ug/L													
Dichloroprop		<MDL		0.028	0.0953	ug/L							<MDL							0.028	0.095	ug/L													
Dinoseb		<MDL		0.035	0.0953	ug/L							<MDL							0.035	0.095	ug/L													
MCPA		<MDL		0.045	0.143	ug/L							<MDL							0.045	0.142	ug/L													
MCPP		<MDL		0.019	0.0953	ug/L							<MDL							0.019	0.095	ug/L													

PROJECT: 423557						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Apr 15, 2003 Lab ID: L27976-1 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Apr 15, 2003 Lab ID: L27976-2 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Apr 15, 2003 Lab ID: L27976-3 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Apr 15, 2003 Lab ID: L27976-4 Matrix: FRESH WTR % Solids:					
Parameters		Value	Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units					
						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis											
COMBINED LABS																													
M=CV EPA446.0 (03-02-002S-003)																													
Chlorophyll-A		<MDL		1	2	ug/L	0.8		<RDL		0.56	1.11	ug/L	0.62		<RDL		0.56	1.11	ug/L	0.71		<RDL		0.56	1.11	ug/L		
Phaeophytin		<MDL		2	4	ug/L	<MDL			1.1	2.22	ug/L	<MDL			1.1	2.22	ug/L	<MDL			1.1	2.22	ug/L					
M=CV SM2130-B (03-01-011-002)																													
Turbidity		5.18		0.5	2	NTU	5.03			0.5	2	NTU	4.34			0.5	2	NTU	4.62			0.5	2	NTU					
M=CV SM2320-B (03-03-001-002)																													
Alkalinity		15.7		1	10	mg CaCO3/L	13.8			1	10	mg CaCO3/L	14.1			1	10	mg CaCO3/L	15.9			1	10	mg CaCO3/L					
M=CV SM2540-D (03-01-009-001)																													
Total Suspended Solids		5.8		1	2	mg/L	5.7			0.5	1	mg/L	5.96			0.5	1	mg/L	6.26			0.5	1	mg/L					
M=CV SM4500-N-C (03-03-013-001)																													
Total Nitrogen		0.329		0.05	0.1	mg/L	0.272			0.05	0.1	mg/L	0.282			0.05	0.1	mg/L	0.337			0.05	0.1	mg/L					
M=CV SM4500-NH3-G (03-03-012-002)																													
Ammonia Nitrogen		<MDL		0.01	0.02	mg/L	<MDL			0.01	0.02	mg/L	<MDL			0.01	0.02	mg/L	<MDL			0.01	0.02	mg/L					
M=CV SM4500-NO3-F (03-03-012-002)																													
Nitrite + Nitrate Nitrogen		0.273		0.02	0.04	mg/L	0.215			0.02	0.04	mg/L	0.219			0.02	0.04	mg/L	0.274			0.02	0.04	mg/L					
M=CV SM4500-P-B,FMOD(03-03-013-001)																													
Total Phosphorus		0.0082	<RDL		0.005	0.01	mg/L	0.011			0.005	0.01	mg/L	0.0124			0.005	0.01	mg/L	0.0082		<RDL		0.005	0.01	mg/L			
M=CV SM4500-P-F (03-03-012-002)																													
Ortho Phosphorus		0.0027	<RDL		0.002	0.005	mg/L	0.0033		<RDL		0.002	0.005	mg/L	0.003		<RDL		0.002	0.005	mg/L	0.0025		<RDL		0.002	0.005	mg/L	
M=CV SM5310-B (03-04-001-002)																													
Dissolved Organic Carbon		2.55		0.5	1	mg/L	2.65			0.5	1	mg/L	2.9			0.5	1	mg/L	2.35			0.5	1	mg/L					
M=CV SM5310-B (03-04-001-003)																													
Total Organic Carbon		3.02		0.5	1	mg/L	2.99			0.5	1	mg/L	2.91			0.5	1	mg/L	2.56			0.5	1	mg/L					
M=CV WHITLEDGE 1981 (03-03-012-002)																													
Silica		5.51		0.05	0.1	mg/L	3.08			0.05	0.1	mg/L	3.74			0.05	0.1	mg/L	5.7			0.05	0.1	mg/L					
M=ES NONE																													
Conductivity, Field		41				umhos/cm	34.9					umhos/cm	35.7					umhos/cm	41					umhos/cm					
Dissolved Oxygen, Field		12.4				mg/L	12.1					mg/L	12.1					mg/L	12.3					mg/L					
Field Personnel		BB,JP				none	BB,JP					none	BB,JP					none	BB,JP					none					
pH, Field		6.6				pH	6.3					pH	6.3					pH	6.6					pH					
Sample Function		S				none	S					none	S					none	FREP@L27976-1					none					
Sample Start Time		1000				hr	941					hr	1034					hr	1000					hr					
Sample Temperature, Field		7.3				deg C	8					deg C	8.2					deg C	7.3					deg C					
M=MC METRO MC SOP 6.5.1																													
Escherichia coli		5				CFU/100ml	6					CFU/100ml	3					CFU/100ml	4					CFU/100ml					
M=MC SM-9222 D ed.17																													
Fecal Coliform		5				CFU/100ml	8					CFU/100ml	5					CFU/100ml	5					CFU/100ml					

PROJECT: 423557	Locator: TOLT569D2					Locator: SNOQ569CZ					Locator: SNOQ539CS					Locator: SNOQ569CZ				
	Descrip: CARNATION AREA					Descrip: CARNATION AREA					Descrip: CARNATION AREA					Descrip: CARNATION AREA				
	Client Loc:					Client Loc:					Client Loc:					Client Loc:				
	Sampled: May 12, 2003					Sampled: May 12, 2003					Sampled: May 12, 2003					Sampled: May 12, 2003				
	Lab ID: L28229-1					Lab ID: L28229-2					Lab ID: L28229-3					Lab ID: L28229-4				
	Matrix: FRESH WTR					Matrix: FRESH WTR					Matrix: FRESH WTR					Matrix: FRESH WTR				
	% Solids:					% Solids:					% Solids:					% Solids:				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
<b>COMBINED LABS</b>																				
<b>M=CV EPA446.0 (03-02-002S-003)</b>																				
Chlorophyll-A	1.6	<RDL	1.1	2.22	ug/L	1.4		0.63	1.25	ug/L	1.7		0.63	1.25	ug/L	1.2	<RDL	0.63	1.25	ug/L
Phaeophytin		<MDL	2.2	4.44	ug/L		<MDL	1.3	2.5	ug/L		<MDL	1.3	2.5	ug/L		<MDL	1.3	2.5	ug/L
<b>M=CV SM2130-B (03-01-011-002)</b>																				
Turbidity	1.3	<RDL	0.5	2	NTU	2.59		0.5	2	NTU	2.5		0.5	2	NTU	2.54		0.5	2	NTU
<b>M=CV SM2320-B (03-03-001-002)</b>																				
Alkalinity	17.4		1	10	mg CaCO3/L	15.4		1	10	mg CaCO3/L	16.1		1	10	mg CaCO3/L	15.2		1	10	mg CaCO3/L
<b>M=CV SM2540-D (03-01-009-002)</b>																				
Total Suspended Solids	1.5		0.5	1	mg/L	2.8		1	2	mg/L	3.9		0.5	1	mg/L	3.23		0.5	1	mg/L
<b>M=CV SM4500-N-C (03-03-013-001)</b>																				
Total Nitrogen	0.238		0.05	0.1	mg/L	0.21		0.05	0.1	mg/L	0.214		0.05	0.1	mg/L	0.205		0.05	0.1	mg/L
<b>M=CV SM4500-NH3-G (03-03-012-002)</b>																				
Ammonia Nitrogen		<MDL	0.01	0.02	mg/L		<MDL	0.01	0.02	mg/L		<MDL	0.01	0.02	mg/L		<MDL	0.01	0.02	mg/L
<b>M=CV SM4500-NO3-F (03-03-012-002)</b>																				
Nitrite + Nitrate Nitrogen	0.209		0.02	0.04	mg/L	0.148		0.02	0.04	mg/L	0.146		0.02	0.04	mg/L	0.148		0.02	0.04	mg/L
<b>M=CV SM4500-P-B,FMOD(03-03-013-001)</b>																				
Total Phosphorus	0.0055	<RDL	0.005	0.01	mg/L	0.0101		0.005	0.01	mg/L	0.0101		0.005	0.01	mg/L	0.0096	<RDL	0.005	0.01	mg/L
<b>M=CV SM4500-P-F (03-03-012-002)</b>																				
Ortho Phosphorus		<MDL	0.002	0.005	mg/L	0.0026	<RDL	0.002	0.005	mg/L	0.0022	<RDL	0.002	0.005	mg/L	0.0024	<RDL	0.002	0.005	mg/L
<b>M=CV SM5310-B (03-04-001-002)</b>																				
Dissolved Organic Carbon	1.91		0.5	1	mg/L	1.85		0.5	1	mg/L	2.03		0.5	1	mg/L	2.19		0.5	1	mg/L
<b>M=CV SM5310-B (03-04-001-003)</b>																				
Total Organic Carbon	2		0.5	1	mg/L	2		0.5	1	mg/L	2.13		0.5	1	mg/L	1.98		0.5	1	mg/L
<b>M=CV WHITLEDGE 1981 (03-03-012-002)</b>																				
Silica	7.92		0.05	0.1	mg/L	6.79		0.05	0.1	mg/L	7.27		0.05	0.1	mg/L	6.85		0.05	0.1	mg/L
<b>M=ES NONE</b>																				
Conductivity, Field	43.1				umhos/cm	35.9				umhos/cm	37.6				umhos/cm	36.1				umhos/cm
Dissolved Oxygen, Field	12.4				mg/L	10.7				mg/L	11.1				mg/L	10.6				mg/L
Field Personnel	JP				none	JP				none	JP				none	JP				none
pH, Field	6.9				pH	6.5				pH	6.6				pH	6.5				pH
Sample Function	S				none	S				none	S				none	FREP@L28229-2				none
Sample Start Time	1100				hr	1100				hr	1100				hr	1100				hr
Sample Temperature, Field	9.2				deg C	10.8				deg C	10.9				deg C	10.8				deg C
<b>M=MC METRO MC SOP 6.5.1</b>																				
Escherichia coli	1				CFU/100ml	31				CFU/100ml	31				CFU/100ml	32				CFU/100ml
<b>M=MC SM-9222 D ed.17</b>																				
Fecal Coliform	3				CFU/100ml	18				CFU/100ml	17				CFU/100ml	10				CFU/100ml

PROJECT: 423557

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis		
<b>COMBINED LABS</b>																				
M=CV EPA446.0 (03-02-002S-003)																				
Chlorophyll-A	1.6	<RDL	1	2	ug/L								<MDL	0.63	1.25	ug/L				
Phaeophytin		<MDL	2	4	ug/L								<MDL	1.3	2.5	ug/L				
M=CV SM2130-B (03-01-011-002)																				
Turbidity	0.88	<RDL	0.5	2	NTU								1.6	<RDL	0.5	2	NTU			
M=CV SM2320-B (03-03-001-002)																				
Alkalinity	19.8		1	10	mg CaCO3/L								16.3		1	10	mg CaCO3/L			
M=CV SM2540-D (03-01-009-002)																				
Total Suspended Solids	1.1		0.5	1	mg/L								1.82		0.5	1	mg/L			
M=CV SM4500-N-C (03-03-013-001)																				
Total Nitrogen	0.246		0.05	0.1	mg/L								0.176		0.05	0.1	mg/L			
M=CV SM4500-NH3-G (03-03-012-002)																				
Ammonia Nitrogen		<MDL	0.01	0.02	mg/L								0.014	<RDL	0.01	0.02	mg/L			
M=CV SM4500-NO3-F (03-03-012-002)																				
Nitrite + Nitrate Nitrogen	0.182		0.02	0.04	mg/L								0.118		0.02	0.04	mg/L			
M=CV SM4500-P-B,FMOD(03-03-013-001)																				
Total Phosphorus	0.0052	<RDL	0.005	0.01	mg/L								0.007	<RDL	0.005	0.01	mg/L			
M=CV SM4500-P-F (03-03-012-002)																				
Ortho Phosphorus		<MDL	0.002	0.005	mg/L								0.0033	<RDL	0.002	0.005	mg/L			
M=CV SM5310-B (03-04-001-002)																				
Dissolved Organic Carbon	1.54		0.5	1	mg/L								1.28		0.5	1	mg/L			
M=CV SM5310-B (03-04-001-003)																				
Total Organic Carbon	1.54		0.5	1	mg/L								1.38		0.5	1	mg/L			
M=CV WHITLEDGE 1981 (03-03-012-002)																				
Silica	7.62		0.05	0.1	mg/L								6.37		0.05	0.1	mg/L			
M=ES NONE																				
Conductivity, Field	47.9				umhos/cm								38.2				umhos/cm			
Dissolved Oxygen, Field	11.5				mg/L								10.3				mg/L			
Field Personnel	SH,JP				none								SH,JP				none			
pH, Field	7.7				pH								6.2				pH			
Sample Function	S				none								S				none			
Sample Start Time	1225				hr								1305				hr			
Sample Temperature, Field	14.2				deg C								14.9				deg C			
M=MC METRO MC SOP 6.5.1																				
Escherichia coli	2				CFU/100ml								19				CFU/100ml			
M=MC SM-9222 D ed.17																				
Fecal Coliform	2				CFU/100ml								11				CFU/100ml			
M=MT EPA 200.7 (06-02-004-002)																				
Aluminum, Dissolved, ICP					mg/L			<MDL	0.1	0.5	mg/L						<MDL	0.1	0.5	mg/L
Aluminum, Total, ICP		<MDL	0.1	0.5	mg/L									<MDL	0.1	0.5	mg/L			
Calcium, Dissolved, ICP					mg/L			6.07		0.05	0.25	mg/L					4.87		0.05	0.25
Calcium, Total, ICP	6.34		0.05	0.25	mg/L								5.1		0.05	0.25	mg/L			
Iron, Dissolved, ICP					mg/L			<MDL	0.05	0.25	mg/L						0.085	<RDL	0.05	0.25
Iron, Total, ICP	0.055	<RDL	0.05	0.25	mg/L								0.2	<RDL	0.05	0.25	mg/L			
Magnesium, Dissolved, ICP					mg/L			1.36		0.03	0.15	mg/L					0.951		0.03	0.15
Magnesium, Total, ICP	1.37		0.03	0.15	mg/L								0.983		0.03	0.15	mg/L			
M=MT EPA 200.8 (06-03-004&004A-001)																				
Antimony, Dissolved, ICP-MS					mg/L			<MDL	0.0005	0.0025	mg/L						<MDL	0.0005	0.0025	mg/L
Antimony, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L									<MDL	0.0005	0.0025	mg/L			
Arsenic, Dissolved, ICP-MS					mg/L			<MDL	0.0005	0.0025	mg/L						0.001	<RDL	0.0005	0.0025
Arsenic, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L								0.0011	<RDL	0.0005	0.0025	mg/L			
Barium, Dissolved, ICP-MS					mg/L			0.00204		0.0002	0.001	mg/L					0.00359		0.0002	0.001



PROJECT: 423557

Locator: TOLT569D2  
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 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-1  
 Matrix: FRESH WTR  
 % Solids:

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 Lab ID: L28625-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
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Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Barium, Total, ICP-MS	0.00214		0.0002	0.001	mg/L						0.00388		0.0002	0.001	mg/L					
Beryllium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L
Beryllium, Total, ICP-MS		<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L					
Cadmium, Dissolved, ICP-MS						<MDL		0.0001	0.0005	mg/L						<MDL		0.0001	0.0005	mg/L
Cadmium, Total, ICP-MS		<MDL	0.0001	0.0005	mg/L							<MDL	0.0001	0.0005	mg/L					
Chromium, Dissolved, ICP-MS						<MDL		0.0004	0.002	mg/L						<MDL		0.0004	0.002	mg/L
Chromium, Total, ICP-MS		<MDL	0.0004	0.002	mg/L							<MDL	0.0004	0.002	mg/L					
Cobalt, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L
Cobalt, Total, ICP-MS		<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L					
Copper, Dissolved, ICP-MS						<MDL		0.0004	0.002	mg/L						0.00041	<RDL	0.0004	0.002	mg/L
Copper, Total, ICP-MS	0.00047	<RDL	0.0004	0.002	mg/L						0.0006	<RDL	0.0004	0.002	mg/L					
Lead, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L
Lead, Total, ICP-MS		<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L					
Molybdenum, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L						0.00055	<RDL	0.0005	0.0025	mg/L
Molybdenum, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L						0.00054	<RDL	0.0005	0.0025	mg/L					
Nickel, Dissolved, ICP-MS						<MDL		0.0003	0.0015	mg/L						<MDL		0.0003	0.0015	mg/L
Nickel, Total, ICP-MS		<MDL	0.0003	0.0015	mg/L							<MDL	0.0003	0.0015	mg/L					
Selenium, Dissolved, ICP-MS						<MDL		0.0015	0.0075	mg/L						<MDL		0.0015	0.0075	mg/L
Selenium, Total, ICP-MS		<MDL	0.0015	0.0075	mg/L							<MDL	0.0015	0.0075	mg/L					
Silver, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L
Silver, Total, ICP-MS		<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L					
Thallium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L
Thallium, Total, ICP-MS		<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L					
Vanadium, Dissolved, ICP-MS						0.00034	<RDL	0.0003	0.0015	mg/L						0.00032	<RDL	0.0003	0.0015	mg/L
Vanadium, Total, ICP-MS	0.00049	<RDL	0.0003	0.0015	mg/L						0.00049	<RDL	0.0003	0.0015	mg/L					
Zinc, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L						<MDL		0.0005	0.0025	mg/L
Zinc, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L							<MDL	0.0005	0.0025	mg/L					
M=MT EPA 245.2 (06-01-004-003)																				
Mercury, Dissolved, CVAA						<MDL		0.000005	0.000015	mg/L						<MDL		0.000005	0.000015	mg/L
Mercury, Total, CVAA		<MDL	0.000005	0.000015	mg/L							<MDL	0.000005	0.000015	mg/L					
M=MT SM2340B.ED19 (06-02-004-002)																				
Hardness, Calc	21.4		0.2	1.25	mg CaCO3/L						16.8		0.2	1.25	mg CaCO3/L					
M=OR EPA 3520C/608 (7-3-03-002)																				
4,4'-DDD		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
4,4'-DDE		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
4,4'-DDT		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Aldrin		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Alpha-BHC		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Alpha-Chlordane		<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L					
Aroclor 1016		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Aroclor 1221		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Aroclor 1232		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Aroclor 1242		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Aroclor 1248		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Aroclor 1254		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Aroclor 1260		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L					
Beta-BHC		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Delta-BHC		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Dieldrin		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Endosulfan I		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Endosulfan II		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Endosulfan Sulfate		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Endrin		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Endrin Aldehyde		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Gamma-BHC (Lindane)		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L					
Gamma-Chlordane		<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L					

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 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis		
Heptachlor		<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			
Heptachlor Epoxide		<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L			
Methoxychlor		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			
Toxaphene		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			
M=OR EPA 3520C/8270C (7-3-04-001)																				
Chlorpyrifos		<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L			
Diazinon		<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L			
Disulfoton		<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L			
Malathion		<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L			
Parathion-Ethyl		<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L			
Parathion-Methyl		<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L			
Phorate		<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L			
M=OR EPA 3520C/8270C LVI 7-3-01-004																				
1,2,4-Trichlorobenzene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			
1,2-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			
1,3-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			
1,4-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			
2,4,5-Trichlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			
2,4,6-Trichlorophenol		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			
2,4-Dichlorophenol		<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			
2,4-Dimethylphenol		<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L			
2,4-Dinitrophenol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			
2,4-Dinitrotoluene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			
2,6-Dinitrotoluene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			
2-Chloronaphthalene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			
2-Chlorophenol		<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			
2-Methylnaphthalene		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			
2-Methylphenol		<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L			
2-Nitroaniline		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			
2-Nitrophenol		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			
3,3'-Dichlorobenzidine		<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L			
3-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			
4-Chloroaniline		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			
4-Methylphenol		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			
4-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			
4-Nitrophenol		<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			
Acenaphthene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			
Acenaphthylene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			
Anthracene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			
Benzyl Butyl Phthalate	0.013	<RDL,B,E	0.0094	0.0236	ug/L						0.0315	B,E	0.0094	0.0236	ug/L					
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			
Bis(2-Chloroethyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			
Bis(2-ethylhexyl)adipate	0.019	<RDL,B	0.0094	0.0943	ug/L						0.015	<RDL,B	0.0094	0.0943	ug/L					
Bis(2-Ethylhexyl)Phthalate	0.139	B	0.0094	0.0236	ug/L						1.88	B	0.0094	0.0236	ug/L					
Bisphenol A	0.027	<RDL,B	0.0094	0.0943	ug/L						0.027	<RDL,B	0.0094	0.0943	ug/L					
Caffeine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			

PROJECT: 423557

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis							
Carbazole		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L		
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Diethyl Phthalate	0.0259	B	0.0094	0.0236	ug/L						0.0274	B	0.0094	0.0236	ug/L										
Dimethyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L		
Di-N-Butyl Phthalate	0.0489	B,G	0.0094	0.0236	ug/L						0.0633	B,G	0.0094	0.0236	ug/L										
Di-N-Octyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L		
Estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Estrone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Ethinyl estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Fluorene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		
Hexachloroethane		<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L		
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		
Isophorone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Methyltestosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Naphthalene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
Nitrobenzene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L		
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L		
Pentachlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L		
Phenanthrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Phenol		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L		
Progesterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
Total 4-Nonylphenol	0.023	<RDL,B	0.019	0.0943	ug/L						0.021	<RDL,B	0.019	0.0943	ug/L										
Vinclozolin		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		
M=OR SW-846 8151 GCMS MODIFIED																									
2,4,5-T		<MDL	0.026	0.0714	ug/L			<MDL	0.026	0.0712	ug/L			<MDL	0.026	0.0712	ug/L			<MDL	0.026	0.0712	ug/L		
2,4,5-TP (Silvex)		<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0949	ug/L			<MDL	0.028	0.0949	ug/L			<MDL	0.028	0.0949	ug/L		
2,4-D		<MDL	0.0095	0.0476	ug/L			<MDL	0.0095	0.0474	ug/L			<MDL	0.0095	0.0474	ug/L			<MDL	0.0095	0.0474	ug/L		
2,4-DB		<MDL	0.013	0.0476	ug/L			<MDL	0.013	0.0474	ug/L			<MDL	0.013	0.0474	ug/L			<MDL	0.013	0.0474	ug/L		
Dalapon		<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0949	ug/L			<MDL	0.028	0.0949	ug/L			<MDL	0.028	0.0949	ug/L		
Dicamba		<MDL	0.023	0.0714	ug/L			<MDL	0.023	0.0712	ug/L			<MDL	0.023	0.0712	ug/L			<MDL	0.023	0.0712	ug/L		
Dichloroprop		<MDL	0.014	0.0476	ug/L			<MDL	0.014	0.0474	ug/L			<MDL	0.014	0.0474	ug/L			<MDL	0.014	0.0474	ug/L		
Dinoseb		<MDL	0.018	0.0476	ug/L			<MDL	0.018	0.0474	ug/L			<MDL	0.018	0.0474	ug/L			<MDL	0.018	0.0474	ug/L		
MCPA		<MDL	0.022	0.0714	ug/L			<MDL	0.022	0.0712	ug/L			<MDL	0.022	0.0712	ug/L			<MDL	0.022	0.0712	ug/L		
MCPP		<MDL	0.0095	0.0476	ug/L			<MDL	0.0095	0.0474	ug/L			<MDL	0.0095	0.0474	ug/L			<MDL	0.0095	0.0474	ug/L		

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-3 Matrix: FILTER WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-4 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-4 Matrix: FILTER WTR % Solids:						Locator: NONE Descrip: UNKNOWN LOCATOR Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-5 Matrix: BLANK WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
COMBINED LABS																																			
M=CV EPA446.0 (03-02-002S-003)																																			
Chlorophyll-A		<MDL	0.63	1.25	ug/L						1.6		0.63	1.25	ug/L																				
Phaeophytin		<MDL	1.3	2.5	ug/L						<MDL		1.3	2.5	ug/L																				
M=CV SM2130-B (03-01-011-002)																																			
Turbidity	1.2	<RDL	0.5	2	NTU						0.9	<RDL	0.5	2	NTU																				
M=CV SM2320-B (03-03-001-002)																																			
Alkalinity	16.2		1	10	mg CaCO3/L						18.6		1	10	mg CaCO3/L																				
M=CV SM2540-D (03-01-009-002)																																			
Total Suspended Solids	2.6		1	2	mg/L						1.4		0.5	1	mg/L																				
M=CV SM4500-N-C (03-03-013-001)																																			
Total Nitrogen	0.174		0.05	0.1	mg/L						0.235		0.05	0.1	mg/L																				
M=CV SM4500-NH3-G (03-03-012-002)																																			
Ammonia Nitrogen	0.013	<RDL	0.01	0.02	mg/L						<MDL		0.01	0.02	mg/L																				
M=CV SM4500-NO3-F (03-03-012-002)																																			
Nitrite + Nitrate Nitrogen	0.128		0.02	0.04	mg/L						0.182		0.02	0.04	mg/L																				
M=CV SM4500-P-B,FMOD(03-03-013-001)																																			
Total Phosphorus	0.0067	<RDL	0.005	0.01	mg/L						<MDL		0.005	0.01	mg/L																				
M=CV SM4500-P-F (03-03-012-002)																																			
Ortho Phosphorus	0.003	<RDL	0.002	0.005	mg/L						<MDL		0.002	0.005	mg/L																				
M=CV SM5310-B (03-04-001-002)																																			
Dissolved Organic Carbon	1.29		0.5	1	mg/L						1.54		0.5	1	mg/L																				
M=CV SM5310-B (03-04-001-003)																																			
Total Organic Carbon	1.37		0.5	1	mg/L						1.41		0.5	1	mg/L																				
M=CV WHITLEDGE 1981 (03-03-012-002)																																			
Silica	6.58		0.05	0.1	mg/L						7.41		0.05	0.1	mg/L																				
M=ES NONE																																			
Conductivity, Field	40.3				umhos/cm						48				umhos/cm																				
Dissolved Oxygen, Field	10.8				mg/L						11.5				mg/L																				
Field Personnel	SH, JP				none						SH, JP				none																				
pH, Field	6.3				pH						7.7				pH																				
Sample Function	S				none						FREP@L28625-1				none																				
Sample Start Time	1102				hr						1227				hr																				
Sample Temperature, Field	14.4				deg C						14.3				deg C																				
M=MC METRO MC SOP 6.5.1																																			
Escherichia coli	10				CFU/100ml						5				CFU/100ml																				
M=MC SM-9222 D ed.17																																			
Fecal Coliform	5				CFU/100ml						3				CFU/100ml																				
M=MT EPA 200.7 (06-02-004-002)																																			
Aluminum, Dissolved, ICP									<MDL	0.1	0.5	mg/L				<MDL	0.1	0.5	mg/L																
Aluminum, Total, ICP	0.12	<RDL	0.1	0.5	mg/L						<MDL		0.1	0.5	mg/L																				
Calcium, Dissolved, ICP									5.02	0.05	0.25	mg/L				6.03	0.05	0.25	mg/L																
Calcium, Total, ICP	5.27		0.05	0.25	mg/L						6.36		0.05	0.25	mg/L																				
Iron, Dissolved, ICP									0.069	<RDL	0.05	0.25	mg/L			<MDL	0.05	0.25	mg/L																
Iron, Total, ICP	0.2	<RDL	0.05	0.25	mg/L						0.052	<RDL	0.05	0.25	mg/L																				
Magnesium, Dissolved, ICP									1.01	0.03	0.15	mg/L				1.34	0.03	0.15	mg/L																
Magnesium, Total, ICP	1.05		0.03	0.15	mg/L						1.38		0.03	0.15	mg/L																				
M=MT EPA 200.8 (06-03-004&004A-001)																																			
Antimony, Dissolved, ICP-MS									<MDL	0.0005	0.0025	mg/L				<MDL	0.0005	0.0025	mg/L																
Antimony, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L						<MDL	0.0005	0.0025	mg/L																					
Arsenic, Dissolved, ICP-MS									0.00083	<RDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L																
Arsenic, Total, ICP-MS	0.00097	<RDL	0.0005	0.0025	mg/L						<MDL	0.0005	0.0025	mg/L																					
Barium, Dissolved, ICP-MS									0.00328	0.0002	0.001	mg/L				0.00209	0.0002	0.001	mg/L																

PROJECT: 423557

Locator: SNOQ539CS  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-3  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ539CS  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-3  
 Matrix: FILTER WTR  
 % Solids:

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-4  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-4  
 Matrix: FILTER WTR  
 % Solids:

Locator: NONE  
 Descr: UNKNOWN LOCATOR  
 Client Loc:  
 Sampled: Jun 16, 2003  
 Lab ID: L28625-5  
 Matrix: BLANK WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units		
Barium, Total, ICP-MS	0.00371		-Wet Weight Basis 0.0002	0.001	mg/L			-Wet Weight Basis			0.00219		-Wet Weight Basis 0.0002	0.001	mg/L			-Wet Weight Basis						-Wet Weight Basis 0.0002	0.001	mg/L	
Beryllium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L							
Beryllium, Total, ICP-MS			<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L								<MDL	0.0002	0.001	mg/L
Cadmium, Dissolved, ICP-MS						<MDL		0.0001	0.0005	mg/L						<MDL		0.0001	0.0005	mg/L							
Cadmium, Total, ICP-MS			<MDL	0.0001	0.0005	mg/L							<MDL	0.0001	0.0005	mg/L								<MDL	0.0001	0.0005	mg/L
Chromium, Dissolved, ICP-MS						<MDL		0.0004	0.002	mg/L						<MDL		0.0004	0.002	mg/L							
Chromium, Total, ICP-MS			<MDL	0.0004	0.002	mg/L							<MDL	0.0004	0.002	mg/L								<MDL	0.0004	0.002	mg/L
Cobalt, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L							
Cobalt, Total, ICP-MS			<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L								<MDL	0.0002	0.001	mg/L
Copper, Dissolved, ICP-MS						0.0005	<RDL	0.0004	0.002	mg/L						<MDL		0.0004	0.002	mg/L							
Copper, Total, ICP-MS	0.00061	<RDL	0.0004	0.002	mg/L						0.00043	<RDL	0.0004	0.002	mg/L								<MDL	0.0004	0.002	mg/L	
Lead, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L							
Lead, Total, ICP-MS			<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L								<MDL	0.0002	0.001	mg/L
Molybdenum, Dissolved, ICP-MS						0.00052	<RDL	0.0005	0.0025	mg/L						<MDL		0.0005	0.0025	mg/L							
Molybdenum, Total, ICP-MS			<MDL	0.0005	0.0025	mg/L							<MDL	0.0005	0.0025	mg/L								<MDL	0.0005	0.0025	mg/L
Nickel, Dissolved, ICP-MS						<MDL		0.0003	0.0015	mg/L						<MDL		0.0003	0.0015	mg/L							
Nickel, Total, ICP-MS	0.0003	<RDL	0.0003	0.0015	mg/L								<MDL	0.0003	0.0015	mg/L								<MDL	0.0003	0.0015	mg/L
Selenium, Dissolved, ICP-MS						<MDL		0.0015	0.0075	mg/L						<MDL		0.0015	0.0075	mg/L							
Selenium, Total, ICP-MS			<MDL	0.0015	0.0075	mg/L							<MDL	0.0015	0.0075	mg/L								<MDL	0.0015	0.0075	mg/L
Silver, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L							
Silver, Total, ICP-MS			<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L								<MDL	0.0002	0.001	mg/L
Thallium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L							
Thallium, Total, ICP-MS			<MDL	0.0002	0.001	mg/L							<MDL	0.0002	0.001	mg/L								<MDL	0.0002	0.001	mg/L
Vanadium, Dissolved, ICP-MS						0.00032	<RDL	0.0003	0.0015	mg/L						0.00037	<RDL	0.0003	0.0015	mg/L							
Vanadium, Total, ICP-MS	0.00051	<RDL	0.0003	0.0015	mg/L						0.00043	<RDL	0.0003	0.0015	mg/L								<MDL	0.0003	0.0015	mg/L	
Zinc, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L						<MDL		0.0005	0.0025	mg/L							
Zinc, Total, ICP-MS	0.00052	<RDL	0.0005	0.0025	mg/L								<MDL	0.0005	0.0025	mg/L								<MDL	0.0005	0.0025	mg/L
M=MT EPA 245.2 (06-01-004-003)																											
Mercury, Dissolved, CVAA						<MDL		0.000005	0.000015	mg/L						<MDL		0.000005	0.000015	mg/L							
Mercury, Total, CVAA			<MDL	0.000005	0.000015	mg/L							<MDL	0.000005	0.000015	mg/L								<MDL	0.000005	0.000015	mg/L
M=MT SM2340B.ED19 (06-02-004-002)																											
Hardness, Calc	17.5		0.2	1.25	mg CaCO3/L						21.5		0.2	1.25	mg CaCO3/L												
M=OR EPA 3520C/608 (7-3-03-002)																											
4,4'-DDD			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
4,4'-DDE			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
4,4'-DDT			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Aldrin			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Alpha-BHC			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Alpha-Chlordane			<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L											
Aroclor 1016			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Aroclor 1221			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Aroclor 1232			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Aroclor 1242			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Aroclor 1248			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Aroclor 1254			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Aroclor 1260			<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L											
Beta-BHC			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Delta-BHC			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Dieldrin			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Endosulfan I			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Endosulfan II			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Endosulfan Sulfate			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Endrin			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Endrin Aldehyde			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Gamma-BHC (Lindane)			<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L											
Gamma-Chlordane			<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L											

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-3 Matrix: FILTER WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-4 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-4 Matrix: FILTER WTR % Solids:						Locator: NONE Descrip: UNKNOWN LOCATOR Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-5 Matrix: BLANK WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis						-Wet Weight Basis					-Wet Weight Basis						
Heptachlor		<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L		<MDL	0.0047	0.00943	ug/L		<MDL	0.0047	0.00943	ug/L														
Heptachlor Epoxide		<MDL	0.0047	0.00943	ug/L			<MDL	0.0047	0.00943	ug/L		<MDL	0.0047	0.00943	ug/L		<MDL	0.0047	0.00943	ug/L														
Methoxychlor		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L														
Toxaphene		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L		<MDL	0.047	0.0943	ug/L		<MDL	0.047	0.0943	ug/L														
M=OR EPA 3520C/8270C (7-3-04-001)																																			
Chlorpyrifos		<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L		<MDL	0.032	0.0472	ug/L		<MDL	0.032	0.0472	ug/L														
Diazinon		<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L		<MDL	0.041	0.0472	ug/L		<MDL	0.041	0.0472	ug/L														
Disulfoton		<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L		<MDL	0.025	0.0472	ug/L		<MDL	0.025	0.0472	ug/L														
Malathion		<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L		<MDL	0.045	0.0472	ug/L		<MDL	0.045	0.0472	ug/L														
Parathion-Ethyl		<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L		<MDL	0.042	0.0472	ug/L		<MDL	0.042	0.0472	ug/L														
Parathion-Methyl		<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L		<MDL	0.034	0.0472	ug/L		<MDL	0.034	0.0472	ug/L														
Phorate		<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L		<MDL	0.031	0.0472	ug/L		<MDL	0.031	0.0472	ug/L														
M=OR EPA 3520C/8270C LVI 7-3-01-004																																			
1,2,4-Trichlorobenzene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L														
1,2-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L														
1,3-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L														
1,4-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L														
2,4,5-Trichlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L		<MDL	0.12	0.236	ug/L		<MDL	0.12	0.236	ug/L														
2,4,6-Trichlorophenol		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L														
2,4-Dichlorophenol		<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L		<MDL	0.094	0.236	ug/L		<MDL	0.094	0.236	ug/L														
2,4-Dimethylphenol		<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L		<MDL	1.4	4.72	ug/L		<MDL	1.4	4.72	ug/L														
2,4-Dinitrophenol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L		<MDL	0.94	2.36	ug/L		<MDL	0.94	2.36	ug/L														
2,4-Dinitrotoluene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L		<MDL	0.047	0.118	ug/L		<MDL	0.047	0.118	ug/L														
2,6-Dinitrotoluene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L		<MDL	0.047	0.118	ug/L		<MDL	0.047	0.118	ug/L														
2-Chloronaphthalene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L														
2-Chlorophenol		<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L		<MDL	0.094	0.236	ug/L		<MDL	0.094	0.236	ug/L														
2-Methylnaphthalene		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L		<MDL	0.094	0.472	ug/L		<MDL	0.094	0.472	ug/L														
2-Methylphenol		<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L		<MDL	0.24	2.36	ug/L		<MDL	0.24	2.36	ug/L														
2-Nitroaniline		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L		<MDL	0.094	0.189	ug/L		<MDL	0.094	0.189	ug/L														
2-Nitrophenol		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L		<MDL	0.047	0.236	ug/L														
3,3'-Dichlorobenzidine		<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L		<MDL	0.71	4.72	ug/L		<MDL	0.71	4.72	ug/L														
3-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L		<MDL	0.47	1.18	ug/L		<MDL	0.47	1.18	ug/L														
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L		<MDL	0.94	2.36	ug/L		<MDL	0.94	2.36	ug/L														
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L														
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L		<MDL	0.24	0.472	ug/L		<MDL	0.24	0.472	ug/L														
4-Chloroaniline		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L		<MDL	0.24	0.472	ug/L		<MDL	0.24	0.472	ug/L														
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L														
4-Methylphenol		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L		<MDL	0.24	1.18	ug/L		<MDL	0.24	1.18	ug/L														
4-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L		<MDL	0.47	1.18	ug/L		<MDL	0.47	1.18	ug/L														
4-Nitrophenol		<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L		<MDL	0.47	2.36	ug/L		<MDL	0.47	2.36	ug/L														
Acenaphthene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L														
Acenaphthylene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L														
Anthracene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L		<MDL	0.0094	0.0472	ug/L														
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L		<MDL	0.024	0.0472	ug/L														
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L														
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L														
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L		<MDL	0.047	0.118	ug/L		<MDL	0.047	0.118	ug/L														
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L														
Benzyl Butyl Phthalate	0.0447	B, E	0.0094	0.0236	ug/L			0.021	<RDL, B, E	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L													
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L														
Bis(2-Chloroethyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L		<MDL	0.0094	0.0236	ug/L														
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L																														

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-3 Matrix: FILTER WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-4 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-4 Matrix: FILTER WTR % Solids:						Locator: NONE Descrip: UNKNOWN LOCATOR Client Loc: Sampled: Jun 16, 2003 Lab ID: L28625-5 Matrix: BLANK WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis						-Wet Weight Basis				-Wet Weight Basis							
Carbazole		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L												
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L												
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L												
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Diethyl Phthalate	0.0427	B	0.0094	0.0236	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L												
Dimethyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L												
Di-N-Butyl Phthalate	0.0585	B,G	0.0094	0.0236	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L												
Di-N-Octyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L												
Estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Estrone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Ethynyl estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Fluorene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L												
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L												
Hexachloroethane		<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L												
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L												
Isophorone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Methyltestosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Naphthalene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L												
Nitrobenzene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L												
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L												
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L												
Pentachlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L												
Phenanthrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Phenol	0.206	B	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L												
Progesterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
Total 4-Nonylphenol		<MDL	0.019	0.0943	ug/L			<MDL	0.019	0.0943	ug/L			<MDL	0.019	0.0943	ug/L			<MDL	0.019	0.0943	ug/L												
Vinclozolin		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L												
M=OR SW-846 8151 GCMS MODIFIED																																			
2,4,5-T		<MDL	0.026	0.0714	ug/L			<MDL	0.026	0.0714	ug/L			<MDL	0.026	0.0714	ug/L			<MDL	0.026	0.0714	ug/L												
2,4,5-TP (Silvex)		<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0952	ug/L												
2,4-D		<MDL	0.0095	0.0476	ug/L			<MDL	0.0095	0.0476	ug/L			<MDL	0.0096	0.0478	ug/L			<MDL	0.0096	0.0478	ug/L												
2,4-DB		<MDL	0.013	0.0476	ug/L			<MDL	0.013	0.0476	ug/L			<MDL	0.013	0.0478	ug/L			<MDL	0.013	0.0478	ug/L												
Dalapon		<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0952	ug/L			<MDL	0.028	0.0957	ug/L			<MDL	0.028	0.0957	ug/L												
Dicamba		<MDL	0.023	0.0714	ug/L			<MDL	0.023	0.0714	ug/L			<MDL	0.023	0.0718	ug/L			<MDL	0.023	0.0718	ug/L												
Dichloroprop		<MDL	0.014	0.0476	ug/L			<MDL	0.014	0.0476	ug/L			<MDL	0.014	0.0478	ug/L			<MDL	0.014	0.0478	ug/L												
Dinoseb		<MDL	0.018	0.0476	ug/L			<MDL	0.018	0.0476	ug/L			<MDL	0.018	0.0478	ug/L			<MDL	0.018	0.0478	ug/L												
MCPA		<MDL	0.022	0.0714	ug/L			<MDL	0.022	0.0714	ug/L			<MDL	0.023	0.0718	ug/L			<MDL	0.023	0.0718	ug/L												
MCPP		<MDL	0.0095	0.0476	ug/L			<MDL	0.0096	0.0478	ug/L			<MDL	0.0096	0.0478	ug/L			<MDL	0.0096	0.0478	ug/L												

PROJECT: 423557						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jul 14, 2003 Lab ID: L28887-1 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Jul 14, 2003 Lab ID: L28887-2 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Jul 14, 2003 Lab ID: L28887-3 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Jul 14, 2003 Lab ID: L28887-4 Matrix: FRESH WTR % Solids:					
Parameters		Value	Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units					
						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis											
COMBINED LABS																													
M=CV EPA446.0 (03-02-002S-003)																													
Chlorophyll-A			<MDL	1.1	2.22	ug/L	1		<RDL	0.63	1.25	ug/L	1.3			0.63	1.25	ug/L	1.1		<RDL	0.63	1.25	ug/L					
Phaeophytin			<MDL	2.2	4.44	ug/L	<MDL			1.3	2.5	ug/L	<MDL			1.3	2.5	ug/L	<MDL			1.3	2.5	ug/L					
M=CV SM2130-B (03-01-011-002)																													
Turbidity		1.4	<RDL	0.5	2	NTU	0.91		<RDL	0.5	2	NTU	0.96		<RDL	0.5	2	NTU	1.5		<RDL	0.5	2	NTU					
M=CV SM2320-B (03-03-001-003)																													
Alkalinity		21.8		1	10	mg CaCO3/L	22.6			1	10	mg CaCO3/L	22.3			1	10	mg CaCO3/L	21.6			1	10	mg CaCO3/L					
M=CV SM2540-D (03-01-009-002)																													
Total Suspended Solids		1.6	<RDL	1	2	mg/L	0.6		<RDL	0.5	1	mg/L	1.1			0.5	1	mg/L	1.4			0.5	1	mg/L					
M=CV SM4500-N-C (03-03-013-001)																													
Total Nitrogen		0.297		0.05	0.1	mg/L	0.226			0.05	0.1	mg/L	0.271			0.05	0.1	mg/L	0.282			0.05	0.1	mg/L					
M=CV SM4500-NH3-G (03-03-012-002)																													
Ammonia Nitrogen		0.011	<RDL	0.01	0.02	mg/L	0.015		<RDL	0.01	0.02	mg/L	<MDL			0.01	0.02	mg/L	<MDL			0.01	0.02	mg/L					
M=CV SM4500-NO3-F (03-03-012-002)																													
Nitrite + Nitrate Nitrogen		0.213		0.02	0.04	mg/L	0.151			0.02	0.04	mg/L	0.168			0.02	0.04	mg/L	0.212			0.02	0.04	mg/L					
M=CV SM4500-P-B,FMOD(03-03-013-001)																													
Total Phosphorus		0.0095	<RDL	0.005	0.01	mg/L	0.0104			0.005	0.01	mg/L	0.0105			0.005	0.01	mg/L	0.0078		<RDL	0.005	0.01	mg/L					
M=CV SM4500-P-F (03-03-012-002)																													
Ortho Phosphorus			<MDL	0.002	0.005	mg/L	0.0024		<RDL	0.002	0.005	mg/L	<MDL			0.002	0.005	mg/L	<MDL			0.002	0.005	mg/L					
M=CV SM5310-B (03-04-001-002)																													
Dissolved Organic Carbon		1.56		0.5	1	mg/L	1.26			0.5	1	mg/L	1.46			0.5	1	mg/L	1.74			0.5	1	mg/L					
M=CV SM5310-B (03-04-001-003)																													
Total Organic Carbon		1.54		0.5	1	mg/L	1.46			0.5	1	mg/L	1.62			0.5	1	mg/L	1.64			0.5	1	mg/L					
M=CV WHITLEDGE 1981 (03-03-012-002)																													
Silica		8.6		0.5	1	mg/L	7.83			0.5	1	mg/L	8.03			0.5	1	mg/L	8.13			0.5	1	mg/L					
M=ES NONE																													
Conductivity, Field		49.3				umhos/cm	50.9					umhos/cm	51					umhos/cm	49.3					umhos/cm					
Dissolved Oxygen, Field		11				mg/L	9.1					mg/L	9.2					mg/L	11.3					mg/L					
Field Personnel		JP				none	JP					none	JP					none	JP					none					
pH, Field		7.3				pH	6.9					pH	7.1					pH	7.4					pH					
Sample Function		S				none	S					none	S					none	FREP@L28887-1					none					
Sample Start Time		1010				hr	946					hr	1115					hr	1015					hr					
Sample Temperature, Field		13.2				deg C	17.2					deg C	17.2					deg C	13.2					deg C					
M=MC METRO MC SOP 6.5.1																													
Escherichia coli		12				CFU/100ml	37					CFU/100ml	28					CFU/100ml	9					CFU/100ml					
M=MC SM-9222 D ed.17																													
Fecal Coliform		19				CFU/100ml	32					CFU/100ml	14					CFU/100ml	7					CFU/100ml					





PROJECT: 423557						Locator: TOLT569D2						Locator: TOLT569D2						Locator: SNOQ569CZ						Locator: SNOQ569CZ						
Descrip: CARNATION AREA						Descrip: CARNATION AREA						Descrip: CARNATION AREA						Descrip: CARNATION AREA						Descrip: CARNATION AREA						
Client Loc:						Client Loc:						Client Loc:						Client Loc:						Client Loc:						
Sampled: Sep 22, 2003						Sampled: Sep 22, 2003						Sampled: Sep 22, 2003						Sampled: Sep 22, 2003						Sampled: Sep 22, 2003						
Lab ID: L29440-1						Lab ID: L29440-1						Lab ID: L29440-2						Lab ID: L29440-2						Lab ID: L29440-2						
Matrix: FRESH WTR						Matrix: FILTER WTR						Matrix: FRESH WTR						Matrix: FILTER WTR						Matrix: FILTER WTR						
% Solids:						% Solids:						% Solids:						% Solids:						% Solids:						
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
-Wet Weight Basis																														
COMBINED LABS																														
M=CV EPA446.0 (03-02-002S-003)																														
Chlorophyll-A	1.3	<RDL	1	2	ug/L						0.64	<RDL	0.5	1	ug/L															
Phaeophytin		<MDL	2	4	ug/L							<MDL	1	2	ug/L															
M=CV SM2130-B (03-01-011-003)																														
Turbidity	0.75	<RDL	0.5	2	NTU						1.2	<RDL	0.5	2	NTU															
M=CV SM2320-B (03-03-001-003)																														
Alkalinity	20		1	10	mg CaCO3/L						18.2		1	10	mg CaCO3/L															
M=CV SM2540-D (03-01-009-002)																														
Total Suspended Solids	1	RDL	0.5	1	mg/L						1.4		0.5	1	mg/L															
M=CV SM4500-N-C (03-03-013-001)																														
Total Nitrogen	0.257		0.05	0.1	mg/L						0.248		0.05	0.1	mg/L															
M=CV SM4500-NH3-G (03-03-012-002)																														
Ammonia Nitrogen		<MDL	0.01	0.02	mg/L							<MDL	0.01	0.02	mg/L															
M=CV SM4500-NO3-F (03-03-012-002)																														
Nitrite + Nitrate Nitrogen	0.201		0.02	0.04	mg/L						0.18		0.02	0.04	mg/L															
M=CV SM4500-P-B,FMOD(03-03-013-001)																														
Total Phosphorus		<MDL	0.005	0.01	mg/L						0.0078	<RDL	0.005	0.01	mg/L															
M=CV SM4500-P-F (03-03-012-002)																														
Ortho Phosphorus		<MDL	0.002	0.005	mg/L						0.0031	<RDL	0.002	0.005	mg/L															
M=CV SM5310-B (03-04-001-003)																														
Dissolved Organic Carbon	1.77		0.5	1	mg/L						2.05		0.5	1	mg/L															
Total Organic Carbon	1.83		0.5	1	mg/L						2.05		0.5	1	mg/L															
M=CV WHITLEDGE 1981 (03-03-012-002)																														
Silica	6.5		0.05	0.1	mg/L						6.36		0.05	0.1	mg/L															
M=ES NONE																														
Conductivity, Field	48.4				umhos/cm						45.8				umhos/cm															
Dissolved Oxygen, Field	11.1				mg/L						9.4				mg/L															
Field Personnel	JD,JP				none						JD,JP				none															
pH, Field	6.8				pH						6.1				pH															
Sample Function	S				none						S				none															
Sample Start Time	1025				hr						855				hr															
Sample Temperature, Field	11.2				deg C						12.6				deg C															
M=MC METRO MC SOP 6.5.1																														
Escherichia coli	10				CFU/100ml						50				CFU/100ml															
M=MC SM-9222 D ed.17																														
Fecal Coliform	13				CFU/100ml						53				CFU/100ml															
M=MT EPA 200.7 (06-02-004-002)																														
Aluminum, Dissolved, ICP						<MDL		0.1	0.5	mg/L						<MDL		0.1	0.5	mg/L										
Aluminum, Total, ICP		<MDL	0.1	0.5	mg/L							<MDL	0.1	0.5	mg/L															
Calcium, Dissolved, ICP						5.9		0.05	0.25	mg/L						5.32		0.05	0.25	mg/L										
Calcium, Total, ICP	6.1		0.05	0.25	mg/L						5.38		0.05	0.25	mg/L															
Iron, Dissolved, ICP						<MDL		0.05	0.25	mg/L						0.074	<RDL	0.05	0.25	mg/L										
Iron, Total, ICP	0.1	<RDL	0.05	0.25	mg/L						0.16	<RDL	0.05	0.25	mg/L															
Magnesium, Dissolved, ICP						1.29		0.03	0.15	mg/L						1.11		0.03	0.15	mg/L										
Magnesium, Total, ICP	1.34		0.03	0.15	mg/L						1.11		0.03	0.15	mg/L															
M=MT EPA 200.8 (06-03-004&004A-001)																														
Antimony, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L						<MDL		0.0005	0.0025	mg/L										
Antimony, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L							<MDL	0.0005	0.0025	mg/L															
Arsenic, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L						0.0011	<RDL	0.0005	0.0025	mg/L										
Arsenic, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L						0.0014	<RDL	0.0005	0.0025	mg/L															
Barium, Total, ICP-MS	0.0025		0.0002	0.001	mg/L						0.00394		0.0002	0.001	mg/L															
Beryllium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L						<MDL		0.0002	0.001	mg/L										

PROJECT: 423557						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-1 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-1 Matrix: FILTER WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-2 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-2 Matrix: FILTER WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units				
Beryllium, Total, ICP-MS		<MDL	0.0002	0.001	mg/L		<MDL	0.0001	0.0005	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0001	0.0005	mg/L		<MDL	0.0001	0.0005	mg/L				
Cadmium, Dissolved, ICP-MS																													
Cadmium, Total, ICP-MS		<MDL	0.0001	0.0005	mg/L		<MDL	0.0004	0.002	mg/L		<MDL	0.0001	0.0005	mg/L		<MDL	0.0004	0.002	mg/L		<MDL	0.0004	0.002	mg/L				
Chromium, Dissolved, ICP-MS																													
Chromium, Total, ICP-MS		<MDL	0.0004	0.002	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0004	0.002	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L				
Cobalt, Dissolved, ICP-MS																													
Cobalt, Total, ICP-MS		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L				
Copper, Dissolved, ICP-MS																													
Copper, Total, ICP-MS	0.00056	<RDL	0.0004	0.002	mg/L		0.00043	<RDL	0.0004	0.002	mg/L		0.00062	<RDL	0.0004	0.002	mg/L		0.0004	<RDL	0.0004	0.002	mg/L		0.0004	<RDL	0.0004	0.002	mg/L
Lead, Dissolved, ICP-MS																													
Lead, Total, ICP-MS		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L				
Molybdenum, Dissolved, ICP-MS																													
Molybdenum, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L		<MDL	0.0005	0.0025	mg/L		0.00071	<RDL	0.0005	0.0025	mg/L		<MDL	0.0005	0.0025	mg/L		0.00057	<RDL	0.0005	0.0025	mg/L		
Nickel, Dissolved, ICP-MS																													
Nickel, Total, ICP-MS		<MDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L				
Selenium, Dissolved, ICP-MS																													
Selenium, Total, ICP-MS		<MDL	0.0015	0.0075	mg/L		<MDL	0.0015	0.0075	mg/L		<MDL	0.0015	0.0075	mg/L		<MDL	0.0015	0.0075	mg/L		<MDL	0.0015	0.0075	mg/L				
Silver, Dissolved, ICP-MS																													
Silver, Total, ICP-MS		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L				
Thallium, Dissolved, ICP-MS																													
Thallium, Total, ICP-MS		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L		<MDL	0.0002	0.001	mg/L				
Vanadium, Dissolved, ICP-MS																													
Vanadium, Total, ICP-MS	0.00042	<RDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L		0.00053	<RDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L		<MDL	0.0003	0.0015	mg/L			
Zinc, Dissolved, ICP-MS																													
Zinc, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L		<MDL	0.0005	0.0025	mg/L		0.00054	<RDL	0.0005	0.0025	mg/L		<MDL	0.0005	0.0025	mg/L		<MDL	0.0005	0.0025	mg/L			
M=MT EPA 245.2 (06-01-004-003)																													
Mercury, Dissolved, CVAA																													
Mercury, Total, CVAA	5.7E-06	<RDL	5E-06	1.5E-05	mg/L		<MDL	5E-06	1.5E-05	mg/L		<MDL	5E-06	1.5E-05	mg/L		<MDL	5E-06	1.5E-05	mg/L		<MDL	5E-06	1.5E-05	mg/L				
M=MT SM2340B.ED19 (06-02-004-002)																													
Hardness, Calc	20.7		0.2	1.25 mg CaCO3/L								18		0.2	1.25 mg CaCO3/L														
M=OR EPA 3520C/608 (7-3-03-002)																													
4,4'-DDD		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
4,4'-DDE		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
4,4'-DDT		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Aldrin		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Alpha-BHC		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Alpha-Chlordane		<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L														
Aroclor 1016		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Aroclor 1221		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Aroclor 1232		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Aroclor 1242		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Aroclor 1248		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Aroclor 1254		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Aroclor 1260		<MDL	0.047	0.0943	ug/L							<MDL	0.047	0.0943	ug/L														
Beta-BHC		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Delta-BHC		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Dieldrin		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Endosulfan I		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Endosulfan II		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Endosulfan Sulfate		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Endrin		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Endrin Aldehyde		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Gamma-BHC (Lindane)		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Gamma-Chlordane		<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L														
Heptachlor		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														
Heptachlor Epoxide		<MDL	0.0047	0.00943	ug/L							<MDL	0.0047	0.00943	ug/L														

PROJECT: 423557						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-1 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-1 Matrix: FILTER WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-2 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-2 Matrix: FILTER WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units				
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis						
Methoxychlor		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						
Toxaphene		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L						
M=OR EPA 3520C/8270C (7-3-04-001)																													
Chlorpyrifos		<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L			<MDL	0.032	0.0472	ug/L						
Diazinon		<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L			<MDL	0.041	0.0472	ug/L						
Disulfoton		<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L			<MDL	0.025	0.0472	ug/L						
Malathion		<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L			<MDL	0.045	0.0472	ug/L						
Parathion-Ethyl		<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L			<MDL	0.042	0.0472	ug/L						
Parathion-Methyl		<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L			<MDL	0.034	0.0472	ug/L						
Phorate		<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L			<MDL	0.031	0.0472	ug/L						
M=OR EPA 3520C/8270C LVI 7-3-01-004																													
1,2,4-Trichlorobenzene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L						
1,2-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L						
1,3-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L						
1,4-Dichlorobenzene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L						
2,4,5-Trichlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L						
2,4,6-Trichlorophenol		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L						
2,4-Dichlorophenol		<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L						
2,4-Dimethylphenol		<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L			<MDL	1.4	4.72	ug/L						
2,4-Dinitrophenol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L						
2,4-Dinitrotoluene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L						
2,6-Dinitrotoluene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L						
2-Chloronaphthalene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L						
2-Chlorophenol		<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L			<MDL	0.094	0.236	ug/L						
2-Methylnaphthalene		<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L			<MDL	0.094	0.472	ug/L						
2-Methylphenol		<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L			<MDL	0.24	2.36	ug/L						
2-Nitroaniline		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L						
2-Nitrophenol		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L						
3,3'-Dichlorobenzidine		<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L			<MDL	0.71	4.72	ug/L						
3-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L						
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L			<MDL	0.94	2.36	ug/L						
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L						
4-Chloroaniline		<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L			<MDL	0.24	0.472	ug/L						
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						
4-Methylphenol		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L						
4-Nitroaniline		<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L			<MDL	0.47	1.18	ug/L						
4-Nitrophenol		<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L			<MDL	0.47	2.36	ug/L						
Acenaphthene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L						
Acenaphthylene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L						
Anthracene		<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L			<MDL	0.0094	0.0472	ug/L						
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L						
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L						
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L						
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L						
Benzyl Butyl Phthalate	0.0245	B	0.0094	0.0236	ug/L			0.02	<RDL	B	0.0094	0.0236	ug/L			0.02	<RDL	B	0.0094	0.0236	ug/L								
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L						
Bis(2-Chloroethyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L						
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L						
Bis(2-ethylhexyl)adipate	0.024	<RDL	B	0.0094	0.0943	ug/L		0.018	<RDL	B	0.0094	0.0943	ug/L			0.018	<RDL	B	0.0094	0.0943	ug/L								
Bis(2-Ethylhexyl)Phthalate	1.5	B	0.0094	0.0236	ug/L			1.13	B	0.0094	0.0236	ug/L			1.13	B	0.0094	0.0236	ug/L										
Bisphenol A	0.017	<RDL	B	0.0094	0.0943	ug/L		0.011	<RDL	B	0.0094	0.0943	ug/L			0.011	<RDL	B	0.0094	0.0943	ug/L								
Caffeine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						
Carbazole		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L						

PROJECT: 423557						Locator: TOLT569D2						Locator: TOLT569D2						Locator: SNOQ569CZ						Locator: SNOQ569CZ														
						Descrip: CARNATION AREA						Descrip: CARNATION AREA						Descrip: CARNATION AREA						Descrip: CARNATION AREA														
						Client Loc:						Client Loc:						Client Loc:						Client Loc:														
						Sampled: Sep 22, 2003						Sampled: Sep 22, 2003						Sampled: Sep 22, 2003						Sampled: Sep 22, 2003														
						Lab ID: L29440-1						Lab ID: L29440-1						Lab ID: L29440-2						Lab ID: L29440-2														
						Matrix: FRESH WTR						Matrix: FILTER WTR						Matrix: FRESH WTR						Matrix: FILTER WTR														
						% Solids:						% Solids:						% Solids:						% Solids:														
Parameters						Value	Qual	MDL	RDL	Units	Value						Qual	MDL	RDL	Units	Value						Qual	MDL	RDL	Units								
						-Wet Weight Basis										-Wet Weight Basis										-Wet Weight Basis												
Dibenzo(a,h)anthracene						<MDL		0.047	0.118	ug/L							<MDL		0.047	0.118	ug/L							<MDL		0.047	0.118	ug/L						
Dibenzofuran						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Diethyl Phthalate						0.0367	B	0.0094	0.0236	ug/L							0.0304	B	0.0094	0.0236	ug/L							0.0304	B	0.0094	0.0236	ug/L						
Dimethyl Phthalate						<MDL		0.047	0.0943	ug/L							<MDL		0.047	0.0943	ug/L							<MDL		0.047	0.0943	ug/L						
Di-N-Butyl Phthalate						0.0755	B,G	0.0094	0.0236	ug/L							0.0604	B,G	0.0094	0.0236	ug/L							0.0604	B,G	0.0094	0.0236	ug/L						
Di-N-Octyl Phthalate						<MDL		0.047	0.0943	ug/L							<MDL		0.047	0.0943	ug/L							<MDL		0.047	0.0943	ug/L						
Estradiol						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Estrone						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Ethinyl estradiol						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Fluoranthene						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Fluorene						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Hexachlorobenzene						<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L									
Hexachlorobutadiene						<MDL		0.047	0.236	ug/L							<MDL		0.047	0.236	ug/L							<MDL		0.047	0.236	ug/L						
Hexachloroethane						<MDL		0.024	0.118	ug/L							<MDL		0.024	0.118	ug/L							<MDL		0.024	0.118	ug/L						
Indeno(1,2,3-Cd)Pyrene						<MDL		0.047	0.236	ug/L							<MDL		0.047	0.236	ug/L							<MDL		0.047	0.236	ug/L						
Isophorone						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Methyltestosterone						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Naphthalene						<MDL		0.024	0.0472	ug/L							<MDL		0.024	0.0472	ug/L							<MDL		0.024	0.0472	ug/L						
Nitrobenzene						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
N-Nitrosodimethylamine						<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L							<MDL	0.024	0.0472	ug/L									
N-Nitrosodi-N-Propylamine						<MDL		0.094	0.189	ug/L							<MDL		0.094	0.189	ug/L							<MDL		0.094	0.189	ug/L						
N-Nitrosodiphenylamine						<MDL		0.24	1.18	ug/L							<MDL		0.24	1.18	ug/L							<MDL		0.24	1.18	ug/L						
Pentachlorophenol						<MDL		0.12	0.236	ug/L							<MDL		0.12	0.236	ug/L							<MDL		0.12	0.236	ug/L						
Phenanthrene						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Phenol						<MDL	0.094	0.189	ug/L							<MDL	0.094	0.189	ug/L							<MDL	0.094	0.189	ug/L									
Progesterone						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Pyrene						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Testosterone						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
Total 4-Nonylphenol						<MDL		0.047	0.0943	ug/L							<MDL		0.047	0.0943	ug/L							<MDL		0.047	0.0943	ug/L						
Vinclozolin						<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L							<MDL	0.0094	0.0236	ug/L									
M=OR SW-846 8151 GCMS MODIFIED																																						
2,4,5-T						<MDL		0.043	0.12	ug/L							<MDL		0.043	0.12	ug/L							<MDL		0.043	0.12	ug/L						
2,4,5-TP (Silvex)						<MDL		0.046	0.16	ug/L							<MDL		0.046	0.16	ug/L							<MDL		0.046	0.16	ug/L						
2,4-D						<MDL		0.016	0.08	ug/L							<MDL		0.016	0.08	ug/L							<MDL		0.016	0.08	ug/L						
2,4-DB						<MDL		0.022	0.08	ug/L							<MDL		0.022	0.08	ug/L							<MDL		0.022	0.08	ug/L						
Dalapon						<MDL		0.047	0.16	ug/L							<MDL		0.047	0.16	ug/L							<MDL		0.047	0.16	ug/L						
Dicamba						<MDL	0.039	0.12	ug/L							<MDL	0.039	0.12	ug/L							<MDL	0.039	0.12	ug/L									
Dichloroprop						<MDL		0.023	0.08	ug/L							<MDL		0.023	0.08	ug/L							<MDL		0.023	0.08	ug/L						
Dinoseb						<MDL		0.03	0.08	ug/L							<MDL		0.03	0.08	ug/L							<MDL		0.03	0.08	ug/L						
MCPA						<MDL		0.038	0.12	ug/L							<MDL		0.038	0.12	ug/L							<MDL		0.038	0.12	ug/L						
MCPP						<MDL		0.016	0.08	ug/L							<MDL		0.016	0.08	ug/L							<MDL		0.016	0.08	ug/L						

PROJECT: 423557	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-3 Matrix: FRESH WTR % Solids:	Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-3 Matrix: FILTER WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-4 Matrix: FRESH WTR % Solids:	Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-4 Matrix: FILTER WTR % Solids:	Locator: NONE Descrip: UNKNOWN LOCATOR Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-5 Matrix: BLANK WTR % Solids:
Parameters	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis	Value Qual MDL RDL Units -Wet Weight Basis
<b>COMBINED LABS</b>					
M=CV EPA446.0 (03-02-002S-003)					
Chlorophyll-A	1.04		0.5	1	ug/L
Phaeophytin	1	<RDL	1	2	ug/L
M=CV SM2130-B (03-01-011-003)					
Turbidity	0.96	<RDL	0.5	2	NTU
M=CV SM2320-B (03-03-001-003)					
Alkalinity	18.8		1	10	mg CaCO3/L
M=CV SM2540-D (03-01-009-002)					
Total Suspended Solids	1.4	<RDL	1	2	mg/L
M=CV SM4500-N-C (03-03-013-001)					
Total Nitrogen	0.234		0.05	0.1	mg/L
M=CV SM4500-NH3-G (03-03-012-002)					
Ammonia Nitrogen	<MDL		0.01	0.02	mg/L
M=CV SM4500-NO3-F (03-03-012-002)					
Nitrite + Nitrate Nitrogen	0.176		0.02	0.04	mg/L
M=CV SM4500-P-B,FMOD(03-03-013-001)					
Total Phosphorus	0.007	<RDL	0.005	0.01	mg/L
M=CV SM4500-P-F (03-03-012-002)					
Ortho Phosphorus	0.0024	<RDL	0.002	0.005	mg/L
M=CV SM5310-B (03-04-001-003)					
Dissolved Organic Carbon	1.9		0.5	1	mg/L
Total Organic Carbon	2.04		0.5	1	mg/L
M=CV WHITLEDGE 1981 (03-03-012-002)					
Silica	6.21		0.05	0.1	mg/L
M=ES NONE					
Conductivity, Field	46.1				umhos/cm
Dissolved Oxygen, Field	10.7				mg/L
Field Personnel	JD,JP				none
pH, Field	6.5				pH
Sample Function	S				none
Sample Start Time	1103				hr
Sample Temperature, Field	13				deg C
M=MC METRO MC SOP 6.5.1					
Escherichia coli	23				CFU/100ml
M=MC SM-9222 D ed.17					
Fecal Coliform	21				CFU/100ml
M=MT EPA 200.7 (06-02-004-002)					
Aluminum, Dissolved, ICP		<MDL	0.1	0.5	mg/L
Aluminum, Total, ICP		<MDL	0.1	0.5	mg/L
Calcium, Dissolved, ICP		5.27	0.05	0.25	mg/L
Calcium, Total, ICP	5.47		0.05	0.25	mg/L
Iron, Dissolved, ICP		0.06	<RDL	0.05	0.25 mg/L
Iron, Total, ICP	0.16	<RDL	0.05	0.25	mg/L
Magnesium, Dissolved, ICP		1.12	0.03	0.15	mg/L
Magnesium, Total, ICP	1.18		0.03	0.15	mg/L
M=MT EPA 200.8 (06-03-004&004A-001)					
Antimony, Dissolved, ICP-MS		<MDL	0.0005	0.0025	mg/L
Antimony, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L
Arsenic, Dissolved, ICP-MS		0.00096	<RDL	0.0005	0.0025 mg/L
Arsenic, Total, ICP-MS	0.0013	<RDL	0.0005	0.0025	mg/L
Barium, Total, ICP-MS	0.00371		0.0002	0.001	mg/L
Beryllium, Dissolved, ICP-MS		<MDL	0.0002	0.001	mg/L

PROJECT: 423557					Locator: SNOQ539CS Descrp: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-3 Matrix: FRESH WTR % Solids:					Locator: SNOQ539CS Descrp: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-3 Matrix: FILTER WTR % Solids:					Locator: SNOQ569CZ Descrp: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-4 Matrix: FRESH WTR % Solids:					Locator: SNOQ569CZ Descrp: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-4 Matrix: FILTER WTR % Solids:					Locator: NONE Descrp: UNKNOWN LOCATOR Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-5 Matrix: BLANK WTR % Solids:												
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units							
Beryllium, Total, ICP-MS		<MDL	0.0002	0.001	mg/L			<MDL	0.0001	0.0005	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0001	0.0005	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Cadmium, Dissolved, ICP-MS			-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis				-Wet Weight Basis											-Wet Weight Basis							
Cadmium, Total, ICP-MS		<MDL	0.0001	0.0005	mg/L			<MDL	0.0004	0.002	mg/L			<MDL	0.0001	0.0005	mg/L			<MDL	0.0001	0.0005	mg/L			<MDL	0.0001	0.0005	mg/L			<MDL	0.0001	0.0005	mg/L		
Chromium, Dissolved, ICP-MS																																					
Chromium, Total, ICP-MS		<MDL	0.0004	0.002	mg/L			<MDL	0.0004	0.002	mg/L			<MDL	0.0004	0.002	mg/L			<MDL	0.0004	0.002	mg/L			<MDL	0.0004	0.002	mg/L			<MDL	0.0004	0.002	mg/L		
Cobalt, Dissolved, ICP-MS																																					
Cobalt, Total, ICP-MS		<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Copper, Dissolved, ICP-MS																																					
Copper, Total, ICP-MS	0.00066	<RDL	0.0004	0.002	mg/L			<MDL	0.0004	0.002	mg/L	0.00064	<RDL	0.0004	0.002	mg/L	0.00047	<RDL	0.0004	0.002	mg/L																
Lead, Dissolved, ICP-MS																																					
Lead, Total, ICP-MS		<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Molybdenum, Dissolved, ICP-MS								0.00052	<RDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			0.00058	<RDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L
Molybdenum, Total, ICP-MS	0.00065	<RDL	0.0005	0.0025	mg/L			<MDL	0.0003	0.0015	mg/L			0.0007	<RDL	0.0005	0.0025	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L	
Nickel, Dissolved, ICP-MS								<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L		
Nickel, Total, ICP-MS		<MDL	0.0003	0.0015	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L		
Selenium, Dissolved, ICP-MS								<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L		
Selenium, Total, ICP-MS		<MDL	0.0015	0.0075	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L			<MDL	0.0015	0.0075	mg/L		
Silver, Dissolved, ICP-MS								<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Silver, Total, ICP-MS		<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Thallium, Dissolved, ICP-MS								<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Thallium, Total, ICP-MS		<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L			<MDL	0.0002	0.001	mg/L		
Vanadium, Dissolved, ICP-MS								0.00031	<RDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			0.00032	<RDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L
Vanadium, Total, ICP-MS	0.00055	<RDL	0.0003	0.0015	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L			<MDL	0.0003	0.0015	mg/L		
Zinc, Dissolved, ICP-MS								<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L		
Zinc, Total, ICP-MS		<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L			<MDL	0.0005	0.0025	mg/L		
M=MT EPA 245.2 (06-01-004-003)																																					
Mercury, Dissolved, CVAA								<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	0.00005	0.00015	mg/L		
Mercury, Total, CVAA		<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	5E-06	1.5E-05	mg/L			<MDL	0.00005	0.00015	mg/L		
M=MT SM2340B.ED19 (06-02-004-002)																																					
Hardness, Calc	18.5		0.2	1.25 mg CaCO3/L								18.4		0.2	1.25 mg CaCO3/L																						
M=OR EPA 3520C/608 (7-3-03-002)																																					
4,4'-DDD		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
4,4'-DDE		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
4,4'-DDT		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Aldrin		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Alpha-BHC		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Alpha-Chlordane		<MDL	0.024	0.0472	ug/L									<MDL	0.024	0.0472	ug/L																				
Aroclor 1016		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Aroclor 1221		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Aroclor 1232		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Aroclor 1242		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Aroclor 1248		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Aroclor 1254		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Aroclor 1260		<MDL	0.047	0.0943	ug/L									<MDL	0.047	0.0943	ug/L																				
Beta-BHC		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Delta-BHC		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Dieldrin		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Endosulfan I		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Endosulfan II		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Endosulfan Sulfate		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Endrin		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Endrin Aldehyde		<MDL	0.0047	0.00943	ug/L									<MDL	0.0047	0.00943	ug/L																				
Gamma-BHC (Lindane																																					

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-3 Matrix: FILTER WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-4 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-4 Matrix: FILTER WTR % Solids:						Locator: NONE Descrip: UNKNOWN LOCATOR Client Loc: Sampled: Sep 22, 2003 Lab ID: L29440-5 Matrix: BLANK WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
			-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis		
Methoxychlor		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			
Toxaphene		<MDL	0.047	0.0943	ug/L								<MDL	0.047	0.0943	ug/L																			
M=OR EPA 3520C/8270C (7-3-04-001)																																			
Chlorpyrifos		<MDL	0.032	0.0472	ug/L								<MDL	0.032	0.0472	ug/L																			
Diazinon		<MDL	0.041	0.0472	ug/L								<MDL	0.041	0.0472	ug/L																			
Disulfoton		<MDL	0.025	0.0472	ug/L								<MDL	0.025	0.0472	ug/L																			
Malathion		<MDL	0.045	0.0472	ug/L								<MDL	0.045	0.0472	ug/L																			
Parathion-Ethyl		<MDL	0.042	0.0472	ug/L								<MDL	0.042	0.0472	ug/L																			
Parathion-Methyl		<MDL	0.034	0.0472	ug/L								<MDL	0.034	0.0472	ug/L																			
Phorate		<MDL	0.031	0.0472	ug/L								<MDL	0.031	0.0472	ug/L																			
M=OR EPA 3520C/8270C LVI 7-3-01-004																																			
1,2,4-Trichlorobenzene		<MDL	0.0094	0.0472	ug/L								<MDL	0.0094	0.0472	ug/L																			
1,2-Dichlorobenzene		<MDL	0.047	0.236	ug/L								<MDL	0.047	0.236	ug/L																			
1,3-Dichlorobenzene		<MDL	0.047	0.236	ug/L								<MDL	0.047	0.236	ug/L																			
1,4-Dichlorobenzene		<MDL	0.047	0.236	ug/L								<MDL	0.047	0.236	ug/L																			
2,4,5-Trichlorophenol		<MDL	0.12	0.236	ug/L								<MDL	0.12	0.236	ug/L																			
2,4,6-Trichlorophenol		<MDL	0.047	0.236	ug/L								<MDL	0.047	0.236	ug/L																			
2,4-Dichlorophenol		<MDL	0.094	0.236	ug/L								<MDL	0.094	0.236	ug/L																			
2,4-Dimethylphenol		<MDL	1.4	4.72	ug/L								<MDL	1.4	4.72	ug/L																			
2,4-Dinitrophenol		<MDL	0.94	2.36	ug/L								<MDL	0.94	2.36	ug/L																			
2,4-Dinitrotoluene		<MDL	0.047	0.118	ug/L								<MDL	0.047	0.118	ug/L																			
2,6-Dinitrotoluene		<MDL	0.047	0.118	ug/L								<MDL	0.047	0.118	ug/L																			
2-Chloronaphthalene		<MDL	0.0094	0.0472	ug/L								<MDL	0.0094	0.0472	ug/L																			
2-Chlorophenol		<MDL	0.094	0.236	ug/L								<MDL	0.094	0.236	ug/L																			
2-Methylnaphthalene		<MDL	0.094	0.472	ug/L								<MDL	0.094	0.472	ug/L																			
2-Methylphenol		<MDL	0.24	2.36	ug/L								<MDL	0.24	2.36	ug/L																			
2-Nitroaniline		<MDL	0.094	0.189	ug/L								<MDL	0.094	0.189	ug/L																			
2-Nitrophenol		<MDL	0.047	0.236	ug/L								<MDL	0.047	0.236	ug/L																			
3,3'-Dichlorobenzidine		<MDL	0.71	4.72	ug/L								<MDL	0.71	4.72	ug/L																			
3-Nitroaniline		<MDL	0.47	1.18	ug/L								<MDL	0.47	1.18	ug/L																			
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L								<MDL	0.94	2.36	ug/L																			
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L								<MDL	0.24	0.472	ug/L																			
4-Chloroaniline		<MDL	0.24	0.472	ug/L								<MDL	0.24	0.472	ug/L																			
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			
4-Methylphenol		<MDL	0.24	1.18	ug/L								<MDL	0.24	1.18	ug/L																			
4-Nitroaniline		<MDL	0.47	1.18	ug/L								<MDL	0.47	1.18	ug/L																			
4-Nitrophenol		<MDL	0.47	2.36	ug/L								<MDL	0.47	2.36	ug/L																			
Acenaphthene		<MDL	0.0094	0.0472	ug/L								<MDL	0.0094	0.0472	ug/L																			
Acenaphthylene		<MDL	0.0094	0.0472	ug/L								<MDL	0.0094	0.0472	ug/L																			
Anthracene		<MDL	0.0094	0.0472	ug/L								<MDL	0.0094	0.0472	ug/L																			
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L								<MDL	0.0094	0.0236	ug/L																			
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L								<MDL	0.0094	0.0236	ug/L																			
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L								<MDL	0.047	0.118	ug/L																			
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L								<MDL	0.0094	0.0236	ug/L																			
Benzyl Butyl Phthalate	0.124	B	0.0094	0.0236	ug/L							0.02	<RDL	B	0.0094	0.0236	ug/L																		
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L								<MDL	0.0094	0.0236	ug/L																			
Bis(2-Chloroethoxy)Ether		<MDL	0.0094	0.0236	ug/L								<MDL	0.0094	0.0236	ug/L																			
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L								<MDL	0.0094	0.0236	ug/L																			
Bis(2-ethylhexyl)adipate	0.02	<RDL	B	0.0094	0.0943	ug/L						0.016	<RDL	B	0.0094	0.0943	ug/L																		
Bis(2-Ethylhexyl)Phthalate	0.488	B	0.0094	0.0236	ug/L							0.149	B	0.0094	0.0236	ug/L																			
Bisphenol A	0.013	<RDL	B	0.0094	0.0943	ug/L						0.013	<RDL	B	0.0094	0.0943	ug/L																		
Caffeine		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			
Carbazole		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			
Chrysene		<MDL	0.024	0.0472	ug/L								<MDL	0.024	0.0472	ug/L																			



PROJECT: 423557

Locator: SNOQ539CS  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Sep 22, 2003  
 Lab ID: L29440-3  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ539CS  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Sep 22, 2003  
 Lab ID: L29440-3  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Sep 22, 2003  
 Lab ID: L29440-4  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Sep 22, 2003  
 Lab ID: L29440-4  
 Matrix: FILTER WTR  
 % Solids:

Locator: NONE  
 Descrip: UNKNOWN LOCATOR  
 Client Loc:  
 Sampled: Sep 22, 2003  
 Lab ID: L29440-5  
 Matrix: BLANK WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units					
			-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis					-Wet Weight Basis							
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L	
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Diethyl Phthalate	0.118	B	0.0094	0.0236	ug/L			0.034	B	0.0094	0.0236	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Dimethyl Phthalate		<MDL	0.047	0.0943	ug/L				<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Di-N-Butyl Phthalate	0.329	B,G	0.0094	0.0236	ug/L			0.0563	B,G	0.0094	0.0236	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Di-N-Octyl Phthalate		<MDL	0.047	0.0943	ug/L				<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Estradiol		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Estrone		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Ethinyl estradiol		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Fluoranthene		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Fluorene		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L				<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L				<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
Hexachloroethane		<MDL	0.024	0.118	ug/L				<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L				<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
Isophorone		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Methyltestosterone		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Naphthalene		<MDL	0.024	0.0472	ug/L				<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Nitrobenzene		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L				<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L				<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L				<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L
Pentachlorophenol		<MDL	0.12	0.236	ug/L				<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L
Phenanthrene		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Phenol	1.02	B	0.094	0.189	ug/L				<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L
Progesterone		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Pyrene		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Testosterone		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Total 4-Nonylphenol		<MDL	0.047	0.0943	ug/L				<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Vinclozolin		<MDL	0.0094	0.0236	ug/L				<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
M=OR SW-846 8151 GCMS MODIFIED																														
2,4,5-T		<MDL	0.043	0.12	ug/L				<MDL	0.043	0.12	ug/L			<MDL	0.043	0.12	ug/L			<MDL	0.043	0.12	ug/L			<MDL	0.043	0.12	ug/L
2,4,5-TP (Silvex)		<MDL	0.046	0.16	ug/L				<MDL	0.046	0.16	ug/L			<MDL	0.046	0.16	ug/L			<MDL	0.046	0.16	ug/L			<MDL	0.046	0.16	ug/L
2,4-D		<MDL	0.016	0.08	ug/L				<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L
2,4-DB		<MDL	0.022	0.08	ug/L				<MDL	0.022	0.08	ug/L			<MDL	0.022	0.08	ug/L			<MDL	0.022	0.08	ug/L			<MDL	0.022	0.08	ug/L
Dalapon		<MDL	0.047	0.16	ug/L				<MDL	0.047	0.16	ug/L			<MDL	0.047	0.16	ug/L			<MDL	0.047	0.16	ug/L			<MDL	0.047	0.16	ug/L
Dicamba		<MDL	0.039	0.12	ug/L				<MDL	0.039	0.12	ug/L			<MDL	0.039	0.12	ug/L			<MDL	0.039	0.12	ug/L			<MDL	0.039	0.12	ug/L
Dichloroprop		<MDL	0.023	0.08	ug/L				<MDL	0.023	0.08	ug/L			<MDL	0.023	0.08	ug/L			<MDL	0.023	0.08	ug/L			<MDL	0.023	0.08	ug/L
Dinoseb		<MDL	0.03	0.08	ug/L				<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L
MCPA		<MDL	0.038	0.12	ug/L				<MDL	0.038	0.12	ug/L			<MDL	0.038	0.12	ug/L			<MDL	0.038	0.12	ug/L			<MDL	0.038	0.12	ug/L
MCPP		<MDL	0.016	0.08	ug/L				<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L

PROJECT: 423557

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Oct 07, 2003  
 Lab ID: L29859-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Oct 07, 2003  
 Lab ID: L29859-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ539CS  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Oct 07, 2003  
 Lab ID: L29859-3  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Client Loc:  
 Sampled: Oct 07, 2003  
 Lab ID: L29859-4  
 Matrix: FRESH WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units				
					-Wet Weight Basis						-Wet Weight Basis						-Wet Weight Basis							
COMBINED LABS																								
M=CV EPA446.0 (03-02-002S-003)																								
Chlorophyll-A	2.14		0.56	1.11	ug/L	0.59	<RDL	0.52	1.05	ug/L	1.12		0.5	1	ug/L	2.64		0.5	1	ug/L				
Phaeophytin	2.23		1.1	2.22	ug/L	<MDL		1	2.09	ug/L	1.1	<RDL		1	2	ug/L	2	RDL		1	2	ug/L		
M=CV SM2130-B (03-01-011-003)																								
Turbidity	1.1	<RDL		0.5	2	NTU	1.4	<RDL		0.5	2	NTU	1.2	<RDL		0.5	2	NTU	1.1	<RDL		0.5	2	NTU
M=CV SM2320-B (03-03-001-003)																								
Alkalinity	21.5			1	10	mg CaCO3/L	29.7			1	10	mg CaCO3/L	28.4			1	10	mg CaCO3/L	21.9			1	10	mg CaCO3/L
M=CV SM2540-D (03-01-009-002)																								
Total Suspended Solids	1	<RDL		1	2	mg/L	1.21			0.5	1	mg/L	1.3			0.5	1	mg/L	1.7			0.5	1	mg/L
M=CV SM4500-N-C (03-03-013-001)																								
Total Nitrogen	0.27			0.05	0.1	mg/L	0.267			0.05	0.1	mg/L	0.274			0.05	0.1	mg/L	0.255			0.05	0.1	mg/L
M=CV SM4500-NH3-G (03-03-012-002)																								
Ammonia Nitrogen	<MDL			0.01	0.02	mg/L	0.014	<RDL		0.01	0.02	mg/L	0.017	<RDL		0.01	0.02	mg/L	<MDL			0.01	0.02	mg/L
M=CV SM4500-NO3-F (03-03-012-002)																								
Nitrite + Nitrate Nitrogen	0.173			0.02	0.04	mg/L	0.172			0.02	0.04	mg/L	0.193			0.02	0.04	mg/L	0.18			0.02	0.04	mg/L
M=CV SM4500-P-B,FMOD(03-03-013-001)																								
Total Phosphorus	0.0077	<RDL		0.005	0.01	mg/L	0.0125			0.005	0.01	mg/L	0.0113			0.005	0.01	mg/L	0.007	<RDL		0.005	0.01	mg/L
M=CV SM4500-P-F (03-03-012-002)																								
Ortho Phosphorus	<MDL			0.002	0.005	mg/L	0.0034	<RDL		0.002	0.005	mg/L	0.003	<RDL		0.002	0.005	mg/L	<MDL			0.002	0.005	mg/L
M=CV SM5310-B (03-04-001-003)																								
Dissolved Organic Carbon	1.9			0.5	1	mg/L	1.62			0.5	1	mg/L	1.55			0.5	1	mg/L	1.79			0.5	1	mg/L
Total Organic Carbon	2.04			0.5	1	mg/L	1.66			0.5	1	mg/L	1.67			0.5	1	mg/L	2			0.5	1	mg/L
M=CV WHITLEDGE 1981 (03-03-012-002)																								
Silica	7.24			0.05	0.1	mg/L	8.68			0.05	0.1	mg/L	8.5			0.05	0.1	mg/L	7.28			0.05	0.1	mg/L
M=ES NONE																								
Conductivity, Field	52.1				umhos/cm	72.3				umhos/cm	69.8				umhos/cm	52.1				umhos/cm				
Dissolved Oxygen, Field	10.5				mg/L	10				mg/L	10.3				mg/L	10.9				mg/L				
Field Personnel	JP				none	JP				none	JP				none	JP				none				
pH, Field	7.5				pH	6.2				pH	6.4				pH	7.6				pH				
Sample Function	S				none	S				none	S				none	FREP@L29859-1				none				
Sample Start Time	1123				hr	1100				hr	1208				hr	1124				hr				
Sample Temperature, Field	13.8				deg C	13.9				deg C	14.2				deg C	13.8				deg C				
M=MC METRO MC SOP 6.5.1																								
Escherichia coli	38				CFU/100ml	47				CFU/100ml	22				CFU/100ml	38				CFU/100ml				
M=MC SM-9222 D ed.17																								
Fecal Coliform	38				CFU/100ml	32				CFU/100ml	19				CFU/100ml	50				CFU/100ml				

PROJECT: 423557

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Sampled: Nov 03, 2003  
 Lab ID: L29923-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descr: CARNATION AREA  
 Sampled: Nov 03, 2003  
 Lab ID: L29923-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ539CS  
 Descr: CARNATION AREA  
 Sampled: Nov 03, 2003  
 Lab ID: L29923-3  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descr: CARNATION AREA  
 Sampled: Nov 03, 2003  
 Lab ID: L29923-4  
 Matrix: FRESH WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
<b>COMBINED LABS</b>																				
<b>M=CV EPA446.0 (03-02-002S-003)</b>																				
Chlorophyll-A		<MDL	1.1	2.22	ug/L		<MDL	0.5	1	ug/L		<MDL	0.5	1	ug/L		<MDL	0.5	1	ug/L
Phaeophytin		<MDL	2.2	4.44	ug/L		<MDL	1	2	ug/L		<MDL	1	2	ug/L		<MDL	1	2	ug/L
<b>M=CV SM2130-B (03-01-011-003)</b>																				
Turbidity	7.99		0.5	2	NTU	2.47		0.5	2	NTU	3.65		0.5	2	NTU	8.08		0.5	2	NTU
<b>M=CV SM2320-B (03-03-001-003)</b>																				
Alkalinity	17.9		1	10	mg CaCO3/L	16.7		1	10	mg CaCO3/L	17.2		1	10	mg CaCO3/L	17.7		1	10	mg CaCO3/L
<b>M=CV SM2540-D (03-01-009-002)</b>																				
Total Suspended Solids	6.4		1	2	mg/L	1.5		0.5	1	mg/L	2.6		0.5	1	mg/L	6.3		0.5	1	mg/L
<b>M=CV SM4500-N-C (03-03-013-001)</b>																				
Total Nitrogen	0.429		0.05	0.1	mg/L	0.356		0.05	0.1	mg/L	0.348		0.05	0.1	mg/L	0.406		0.05	0.1	mg/L
<b>M=CV SM4500-NH3-G (03-03-012-002)</b>																				
Ammonia Nitrogen	<MDL		0.01	0.02	mg/L	0.011	<RDL	0.01	0.02	mg/L	<MDL		0.01	0.02	mg/L	<MDL		0.01	0.02	mg/L
<b>M=CV SM4500-NO3-F (03-03-012-002)</b>																				
Nitrite + Nitrate Nitrogen	0.364		0.02	0.04	mg/L	0.286		0.02	0.04	mg/L	0.28		0.02	0.04	mg/L	0.356		0.02	0.04	mg/L
<b>M=CV SM4500-P-B,FMOD(03-03-013-001)</b>																				
Total Phosphorus	0.0093	<RDL	0.005	0.01	mg/L	0.0104		0.005	0.01	mg/L	0.0099	<RDL	0.005	0.01	mg/L	0.0097	<RDL	0.005	0.01	mg/L
<b>M=CV SM4500-P-F (03-03-012-002)</b>																				
Ortho Phosphorus	0.0036	<RDL	0.002	0.005	mg/L	0.004	<RDL	0.002	0.005	mg/L	0.0042	<RDL	0.002	0.005	mg/L	0.004	<RDL	0.002	0.005	mg/L
<b>M=CV SM5310-B (03-04-001-003)</b>																				
Dissolved Organic Carbon	2.4		0.5	1	mg/L	2.57		0.5	1	mg/L	2.51		0.5	1	mg/L	2.36		0.5	1	mg/L
Total Organic Carbon	2.48		0.5	1	mg/L	2.47		0.5	1	mg/L	2.28		0.5	1	mg/L	2.19		0.5	1	mg/L
<b>M=CV WHITLEDGE 1981 (03-03-012-002)</b>																				
Silica	8.63		0.05	0.1	mg/L	8.1		0.05	0.1	mg/L	8.41		0.05	0.1	mg/L	8.68		0.05	0.1	mg/L
<b>M=ES NONE</b>																				
Conductivity, Field	46.2				umhos/cm	42.6				umhos/cm	44.2				umhos/cm	45.9				umhos/cm
Dissolved Oxygen, Field	12.5				mg/L	11.6				mg/L	11.9				mg/L	12.4				mg/L
Field Personnel	JP				none	JP				none	JP				none	JP				none
pH, Field	6.7				pH	6.2				pH	6.4				pH	6.8				pH
Sample Function	S				none	S				none	S				none	FREP@L29923-1				none
Sample Start Time	1020				hr	950				hr	1055				hr	1023				hr
Sample Temperature, Field	4.5				deg C	5.5				deg C	5.6				deg C	4.5				deg C
<b>M=MC METRO MC SOP 6.5.1</b>																				
Escherichia coli	5				CFU/100ml	23				CFU/100ml	8				CFU/100ml	7				CFU/100ml
<b>M=MC SM-9222 D ed.17</b>																				
Fecal Coliform	5				CFU/100ml	19				CFU/100ml	6				CFU/100ml	10				CFU/100ml

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-2  
 Matrix: FILTER WTR  
 % Solids:

## Appendix B

PROJECT: 423557	Locator: TOLT569D2					Locator: TOLT569D2					Locator: SNOQ569CZ					Locator: SNOQ569CZ				
	Descrip: CARNATION AREA					Descrip: CARNATION AREA					Descrip: CARNATION AREA					Descrip: CARNATION AREA				
	Sampled: Dec 01, 2003					Sampled: Dec 01, 2003					Sampled: Dec 01, 2003					Sampled: Dec 01, 2003				
	Lab ID: L30353-1					Lab ID: L30353-1					Lab ID: L30353-2					Lab ID: L30353-2				
	Matrix: FRESH WTR					Matrix: FILTER WTR					Matrix: FRESH WTR					Matrix: FILTER WTR				
	% Solids:					% Solids:					% Solids:					% Solids:				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis		
Beryllium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Beryllium, Total, ICP-MS						<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Cadmium, Dissolved, ICP-MS						<MDL		0.0001	0.0005	mg/L	<MDL		0.0001	0.0005	mg/L	<MDL		0.0001	0.0005	mg/L
Cadmium, Total, ICP-MS						<MDL		0.0001	0.0005	mg/L	<MDL		0.0001	0.0005	mg/L	<MDL		0.0001	0.0005	mg/L
Chromium, Dissolved, ICP-MS						<MDL		0.0004	0.002	mg/L	<MDL		0.0004	0.002	mg/L	<MDL		0.0004	0.002	mg/L
Chromium, Total, ICP-MS	0.00097	<RDL	0.0004	0.002	mg/L	<MDL		0.0002	0.001	mg/L	0.0011	<RDL	0.0004	0.002	mg/L	<MDL		0.0002	0.001	mg/L
Cobalt, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L	0.00037	<RDL	0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Cobalt, Total, ICP-MS	0.0004	<RDL	0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	0.00019	<RDL	0.0004	0.002	mg/L	<MDL		0.0002	0.001	mg/L
Copper, Dissolved, ICP-MS						0.00051	<RDL	0.0004	0.002	mg/L	0.00019	<RDL	0.0004	0.002	mg/L	0.0008	<RDL	0.0004	0.002	mg/L
Copper, Total, ICP-MS	0.0018	<RDL	0.0004	0.002	mg/L	<MDL		0.0002	0.001	mg/L	0.00019	<RDL	0.0004	0.002	mg/L	<MDL		0.0002	0.001	mg/L
Lead, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L	0.00025	<RDL	0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Lead, Total, ICP-MS	0.00023	<RDL	0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	0.00025	<RDL	0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Molybdenum, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L	<MDL		0.0005	0.0025	mg/L	<MDL		0.0005	0.0025	mg/L
Molybdenum, Total, ICP-MS						<MDL		0.0003	0.0015	mg/L	<MDL		0.0003	0.0015	mg/L	<MDL		0.0003	0.0015	mg/L
Nickel, Dissolved, ICP-MS						<MDL		0.0015	0.0075	mg/L	0.00013	<RDL	0.0003	0.0015	mg/L	<MDL		0.0015	0.0075	mg/L
Nickel, Total, ICP-MS	0.00099	<RDL	0.0003	0.0015	mg/L	<MDL		0.0002	0.001	mg/L	0.00013	<RDL	0.0003	0.0015	mg/L	<MDL		0.0002	0.001	mg/L
Selenium, Dissolved, ICP-MS						<MDL		0.0015	0.0075	mg/L	<MDL		0.0015	0.0075	mg/L	<MDL		0.0015	0.0075	mg/L
Selenium, Total, ICP-MS						<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Silver, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Silver, Total, ICP-MS						<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Thallium, Dissolved, ICP-MS						<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L	<MDL		0.0002	0.001	mg/L
Thallium, Total, ICP-MS						0.0004	<RDL	0.0003	0.0015	mg/L	<MDL		0.0002	0.001	mg/L	0.00032	<RDL	0.0003	0.0015	mg/L
Vanadium, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L	0.00181		0.0003	0.0015	mg/L	<MDL		0.0005	0.0025	mg/L
Vanadium, Total, ICP-MS	0.00207		0.0003	0.0015	mg/L	<MDL		0.0005	0.0025	mg/L	0.0019	<RDL	0.0005	0.0025	mg/L	<MDL		0.0005	0.0025	mg/L
Zinc, Dissolved, ICP-MS						<MDL		0.0005	0.0025	mg/L	0.0019	<RDL	0.0005	0.0025	mg/L	<MDL		0.0005	0.0025	mg/L
Zinc, Total, ICP-MS	0.0015	<RDL	0.0005	0.0025	mg/L	<MDL		0.000005	0.000015	mg/L	<MDL		0.000005	0.000015	mg/L	<MDL		0.000005	0.000015	mg/L
M=MT EPA 245.2 (06-01-004-003)																				
Mercury, Dissolved, CVAA						<MDL		0.000005	0.000015	mg/L	<MDL		0.000005	0.000015	mg/L	<MDL		0.000005	0.000015	mg/L
Mercury, Total, CVAA																				
M=MT SM2340B.ED19 (06-02-004-002)																				
Hardness, Calc	16.9		0.2	1.25	mg CaCO3/L						12.2		0.2	1.25	mg CaCO3/L					
M=OR EPA 3520C/608 (7-3-03-002)																				
4,4'-DDD			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
4,4'-DDE			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
4,4'-DDT			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Aldrin			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Alpha-BHC			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Alpha-Chlordane			0.024	0.0472	ug/L	<MDL		0.024	0.0472	ug/L	<MDL		0.024	0.0472	ug/L	<MDL		0.024	0.0472	ug/L
Aroclor 1016			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Aroclor 1221			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Aroclor 1232			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Aroclor 1242			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Aroclor 1248			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Aroclor 1254			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Aroclor 1260			0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L	<MDL		0.047	0.0943	ug/L
Beta-BHC			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Delta-BHC			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Dieldrin			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Endosulfan I			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Endosulfan II			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Endosulfan Sulfate			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Endrin			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Endrin Aldehyde			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Gamma-BHC (Lindane)			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L
Gamma-Chlordane			0.024	0.0472	ug/L	<MDL		0.024	0.0472	ug/L	<MDL		0.024	0.0472	ug/L	<MDL		0.024	0.0472	ug/L
Heptachlor			0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L	<MDL		0.0047	0.00943	ug/L

PROJECT: 423557						Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-1 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-1 Matrix: FILTER WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-2 Matrix: FRESH WTR % Solids:						Locator: SNOQ569CZ Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-2 Matrix: FILTER WTR % Solids:					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units				
<div>- Wet Weight Basis</div>																													
Heptachlor Epoxide	<MDL	0.0047	0.00943		ug/L	<MDL	0.0047	0.00943		ug/L	<MDL	0.0047	0.00943		ug/L	<MDL	0.0047	0.00943		ug/L	<MDL	0.0047	0.00943		ug/L				
Methoxychlor	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L				
Toxaphene	<MDL	0.047	0.0943		ug/L	<MDL	0.047	0.0943		ug/L	<MDL	0.047	0.0943		ug/L	<MDL	0.047	0.0943		ug/L	<MDL	0.047	0.0943		ug/L				
M=OR EPA 3520C/8270C (7-3-04-001)																													
Chlorpyrifos	<MDL	0.032	0.0472		ug/L	<MDL	0.032	0.0472		ug/L	<MDL	0.032	0.0472		ug/L	<MDL	0.032	0.0472		ug/L	<MDL	0.032	0.0472		ug/L				
Diazinon	<MDL	0.041	0.0472		ug/L	<MDL	0.041	0.0472		ug/L	<MDL	0.041	0.0472		ug/L	<MDL	0.041	0.0472		ug/L	<MDL	0.041	0.0472		ug/L				
Disulfoton	<MDL	0.025	0.0472		ug/L	<MDL	0.025	0.0472		ug/L	<MDL	0.025	0.0472		ug/L	<MDL	0.025	0.0472		ug/L	<MDL	0.025	0.0472		ug/L				
Malathion	<MDL	0.045	0.0472		ug/L	<MDL	0.045	0.0472		ug/L	<MDL	0.045	0.0472		ug/L	<MDL	0.045	0.0472		ug/L	<MDL	0.045	0.0472		ug/L				
Parathion-Ethyl	<MDL	0.042	0.0472		ug/L	<MDL	0.042	0.0472		ug/L	<MDL	0.042	0.0472		ug/L	<MDL	0.042	0.0472		ug/L	<MDL	0.042	0.0472		ug/L				
Parathion-Methyl	<MDL	0.034	0.0472		ug/L	<MDL	0.034	0.0472		ug/L	<MDL	0.034	0.0472		ug/L	<MDL	0.034	0.0472		ug/L	<MDL	0.034	0.0472		ug/L				
Phorate	<MDL	0.031	0.0472		ug/L	<MDL	0.031	0.0472		ug/L	<MDL	0.031	0.0472		ug/L	<MDL	0.031	0.0472		ug/L	<MDL	0.031	0.0472		ug/L				
M=OR EPA 3520C/8270C LVI 7-3-01-004																													
1,2,4-Trichlorobenzene	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L				
1,2-Dichlorobenzene	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L				
1,3-Dichlorobenzene	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L				
1,4-Dichlorobenzene	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L				
2,4,5-Trichlorophenol	<MDL	0.12	0.236		ug/L	<MDL	0.12	0.236		ug/L	<MDL	0.12	0.236		ug/L	<MDL	0.12	0.236		ug/L	<MDL	0.12	0.236		ug/L				
2,4,6-Trichlorophenol	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L				
2,4-Dichlorophenol	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L				
2,4-Dimethylphenol	<MDL	1.4	4.72		ug/L	<MDL	1.4	4.72		ug/L	<MDL	1.4	4.72		ug/L	<MDL	1.4	4.72		ug/L	<MDL	1.4	4.72		ug/L				
2,4-Dinitrophenol	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L				
2,4-Dinitrotoluene	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L				
2,6-Dinitrotoluene	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L				
2-Chloronaphthalene	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L				
2-Chlorophenol	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L	<MDL	0.094	0.236		ug/L				
2-Methylnaphthalene	<MDL	0.094	0.472		ug/L	<MDL	0.094	0.472		ug/L	<MDL	0.094	0.472		ug/L	<MDL	0.094	0.472		ug/L	<MDL	0.094	0.472		ug/L				
2-Methylphenol	<MDL	0.24	2.36		ug/L	<MDL	0.24	2.36		ug/L	<MDL	0.24	2.36		ug/L	<MDL	0.24	2.36		ug/L	<MDL	0.24	2.36		ug/L				
2-Nitroaniline	<MDL	0.094	0.189		ug/L	<MDL	0.094	0.189		ug/L	<MDL	0.094	0.189		ug/L	<MDL	0.094	0.189		ug/L	<MDL	0.094	0.189		ug/L				
2-Nitrophenol	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L	<MDL	0.047	0.236		ug/L				
3,3'-Dichlorobenzidine	<MDL	0.71	4.72		ug/L	<MDL	0.71	4.72		ug/L	<MDL	0.71	4.72		ug/L	<MDL	0.71	4.72		ug/L	<MDL	0.71	4.72		ug/L				
3-Nitroaniline	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L				
4,6-Dinitro-O-Cresol	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L	<MDL	0.94	2.36		ug/L				
4-Bromophenyl Phenyl Ether	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L				
4-Chloro-3-Methylphenol	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L				
4-Chloroaniline	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L	<MDL	0.24	0.472		ug/L				
4-Chlorophenyl Phenyl Ether	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L				
4-Methylphenol	<MDL	0.24	1.18		ug/L	<MDL	0.24	1.18		ug/L	<MDL	0.24	1.18		ug/L	<MDL	0.24	1.18		ug/L	<MDL	0.24	1.18		ug/L				
4-Nitroaniline	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L	<MDL	0.47	1.18		ug/L				
4-Nitrophenol	<MDL	0.47	2.36		ug/L	<MDL	0.47	2.36		ug/L	<MDL	0.47	2.36		ug/L	<MDL	0.47	2.36		ug/L	<MDL	0.47	2.36		ug/L				
Acenaphthene	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L				
Acenaphthylene	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L				
Anthracene	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L	<MDL	0.0094	0.0472		ug/L				
Benzo(a)anthracene	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L				
Benzo(a)pyrene	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L				
Benzo(b)fluoranthene	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L				
Benzo(g,h,i)perylene	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L	<MDL	0.047	0.118		ug/L				
Benzo(k)fluoranthene	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L				
Benzyl Butyl Phthalate	0.017	<RDL,B	0.0094	0.0236	ug/L	0.018	<RDL,B	0.0094	0.0236	ug/L	0.018	<RDL,B	0.0094	0.0236	ug/L	0.018	<RDL,B	0.0094	0.0236	ug/L	0.018	<RDL,B	0.0094	0.0236	ug/L				
Bis(2-Chloroethoxy)Methane	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L				
Bis(2-Chloroethyl)Ether	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L				
Bis(2-Chloroisopropyl)Ether	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L	<MDL	0.0094	0.0236		ug/L				
Bis(2-ethylhexyl)adipate	0.029	<RDL,B	0.0094	0.0943	ug/L	0.033	<RDL,B	0.0094	0.0943	ug/L	0.033	<RDL,B	0.0094	0.0943	ug/L	0.033	<RDL,B	0.0094	0.0943	ug/L	0.033	<RDL,B	0.0094	0.0943	ug/L				
Bis(2-Ethylhexyl)Phthalate	0.512	B	0.0094	0.0236	ug/L	0.53	B	0.0094	0.0236	ug/L	0.53	B	0.0094	0.0236	ug/L	0.53	B	0.0094	0.0236	ug/L	0.53	B	0.0094	0.0236	ug/L				
Bisphenol A	0.017	<RDL,B	0.0094	0.0943	ug/L	0.018	<RDL,B	0.0094	0.0943	ug/L	0.018	<RDL,B	0.0094	0.0943	ug/L	0.018	<RDL,B	0.0094	0.0943	ug/L	0.018	<RDL,B	0.0094	0.0943	ug/L				
Caffeine	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L				
Carbazole	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024	0.0472		ug/L	<MDL	0.024												

PROJECT: 423557

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: TOLT569D2  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-1  
 Matrix: FILTER WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrip: CARNATION AREA  
 Sampled: Dec 01, 2003  
 Lab ID: L30353-2  
 Matrix: FILTER WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units			
	- Wet Weight Basis						- Wet Weight Basis						- Wet Weight Basis						- Wet Weight Basis				
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Diethyl Phthalate	0.0819	B	0.0094	0.0236	ug/L						0.0848	B	0.0094	0.0236	ug/L								
Dimethyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Di-N-Butyl Phthalate	0.0797	B	0.0094	0.0236	ug/L						0.0795	B	0.0094	0.0236	ug/L								
Di-N-Octyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Estrone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Ethynyl estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Fluorene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
Hexachloroethane		<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L
Isophorone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Methyltestosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Naphthalene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
Nitrobenzene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L
Pentachlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L
Phenanthrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Phenol		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L
Progesterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Testosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Total 4-Nonylphenol		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L
Vinclozolin		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
M=OR SW-846 8151 GCMS MODIFIED																							
2,4,5-T		<MDL	0.016	0.08	ug/L								<MDL	0.016	0.08	ug/L							
2,4,5-TP (Silvex)		<MDL	0.041	0.12	ug/L								<MDL	0.041	0.12	ug/L							
2,4-D		<MDL	0.015	0.08	ug/L								<MDL	0.015	0.08	ug/L							
2,4-DB		<MDL	0.024	0.08	ug/L								<MDL	0.024	0.08	ug/L							
Dalapon		<MDL	0.021	0.08	ug/L								<MDL	0.021	0.08	ug/L							
Dicamba		<MDL	0.03	0.08	ug/L								<MDL	0.03	0.08	ug/L							
Dichloroprop		<MDL	0.024	0.08	ug/L								<MDL	0.024	0.08	ug/L							
Dinoseb		<MDL	0.042	0.12	ug/L								<MDL	0.042	0.12	ug/L							
MCPA		<MDL	0.029	0.12	ug/L								<MDL	0.029	0.12	ug/L							
MCPP		<MDL	0.013	0.08	ug/L								<MDL	0.013	0.08	ug/L							

## Appendix B



PROJECT: 423557	Locator: SNOQ539CS Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-3 Matrix: FRESH WTR % Solids:	Locator: SNOQ539CS Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-3 Matrix: FILTER WTR % Solids:	Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-4 Matrix: FRESH WTR % Solids:	Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-4 Matrix: FILTER WTR % Solids:	Locator: BLANK1 Descrip: Blank1 Sampled: Dec 01, 2003 Lab ID: L30353-5 Matrix: BLANK WTR % Solids:
Parameters	Value Qual MDL RDL Units - Wet Weight Basis	Value Qual MDL RDL Units - Wet Weight Basis	Value Qual MDL RDL Units - Wet Weight Basis	Value Qual MDL RDL Units - Wet Weight Basis	Value Qual MDL RDL Units - Wet Weight Basis
Beryllium, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L
Beryllium, Total, ICP-MS	<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L	
Cadmium, Dissolved, ICP-MS		<MDL 0.0001 0.0005 mg/L			<MDL 0.0001 0.0005 mg/L
Cadmium, Total, ICP-MS	<MDL 0.0001 0.0005 mg/L			<MDL 0.0001 0.0005 mg/L	
Chromium, Dissolved, ICP-MS		<MDL 0.0004 0.002 mg/L			<MDL 0.0004 0.002 mg/L
Chromium, Total, ICP-MS	0.0013 <RDL 0.0004 0.002 mg/L			0.00097 <RDL 0.0004 0.002 mg/L	
Cobalt, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L
Cobalt, Total, ICP-MS	0.00045 <RDL 0.0002 0.001 mg/L			0.0004 <RDL 0.0002 0.001 mg/L	
Copper, Dissolved, ICP-MS		0.00067 <RDL 0.0004 0.002 mg/L			0.00048 <RDL 0.0004 0.002 mg/L
Copper, Total, ICP-MS	0.00211 0.0004 0.002 mg/L			0.0019 <RDL 0.0004 0.002 mg/L	
Lead, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L
Lead, Total, ICP-MS	0.00028 <RDL 0.0002 0.001 mg/L			0.00021 <RDL 0.0002 0.001 mg/L	
Molybdenum, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L			<MDL 0.0005 0.0025 mg/L
Molybdenum, Total, ICP-MS	<MDL 0.0005 0.0025 mg/L			<MDL 0.0005 0.0025 mg/L	
Nickel, Dissolved, ICP-MS		<MDL 0.0003 0.0015 mg/L			<MDL 0.0003 0.0015 mg/L
Nickel, Total, ICP-MS	0.0014 <RDL 0.0003 0.0015 mg/L			0.001 <RDL 0.0003 0.0015 mg/L	
Selenium, Dissolved, ICP-MS		<MDL 0.0015 0.0075 mg/L			<MDL 0.0015 0.0075 mg/L
Selenium, Total, ICP-MS	<MDL 0.0015 0.0075 mg/L			<MDL 0.0015 0.0075 mg/L	
Silver, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L
Silver, Total, ICP-MS	<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L	
Thallium, Dissolved, ICP-MS		<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L
Thallium, Total, ICP-MS	<MDL 0.0002 0.001 mg/L			<MDL 0.0002 0.001 mg/L	
Vanadium, Dissolved, ICP-MS		0.00032 <RDL 0.0003 0.0015 mg/L			0.00037 <RDL 0.0003 0.0015 mg/L
Vanadium, Total, ICP-MS	0.0022 0.0003 0.0015 mg/L			0.00208 0.0003 0.0015 mg/L	
Zinc, Dissolved, ICP-MS		<MDL 0.0005 0.0025 mg/L			<MDL 0.0005 0.0025 mg/L
Zinc, Total, ICP-MS	0.0023 <RDL 0.0005 0.0025 mg/L			0.0014 <RDL 0.0005 0.0025 mg/L	
M=MT EPA 245.2 (06-01-004-003)					
Mercury, Dissolved, CVAA		<MDL 0.000005 0.000015 mg/L			<MDL 0.000005 0.000015 mg/L
Mercury, Total, CVAA	<MDL 0.000005 0.000015 mg/L			<MDL 0.000005 0.000015 mg/L	
M=MT SM2340B.ED19 (06-02-004-002)					
Hardness, Calc	13.3 0.2 1.25 mg CaCO3/L			16.9 0.2 1.25 mg CaCO3/L	
M=OR EPA 3520C/608 (7-3-03-002)					
4,4'-DDD	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
4,4'-DDE	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
4,4'-DDT	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Aldrin	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Alpha-BHC	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Alpha-Chlordane	<MDL 0.024 0.0472 ug/L			<MDL 0.024 0.0472 ug/L	
Aroclor 1016	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Aroclor 1221	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Aroclor 1232	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Aroclor 1242	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Aroclor 1248	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Aroclor 1254	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Aroclor 1260	<MDL 0.047 0.0943 ug/L			<MDL 0.047 0.0943 ug/L	
Beta-BHC	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Delta-BHC	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Dieldrin	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Endosulfan I	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Endosulfan II	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Endosulfan Sulfate	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Endrin	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Endrin Aldehyde	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Gamma-BHC (Lindane)	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	
Gamma-Chlordane	<MDL 0.024 0.0472 ug/L			<MDL 0.024 0.0472 ug/L	
Heptachlor	<MDL 0.0047 0.00943 ug/L			<MDL 0.0047 0.00943 ug/L	

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-3 Matrix: FILTER WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-4 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-4 Matrix: FILTER WTR % Solids:						Locator: BLANK1 Descrip: Blank1 Sampled: Dec 01, 2003 Lab ID: L30353-5 Matrix: BLANK WTR % Solids:					
Parameters		Value	Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units	Value		Qual	MDL	RDL	Units					
						- Wet Weight Basis						- Wet Weight Basis						- Wet Weight Basis						- Wet Weight Basis											
Heptachlor Epoxide		<MDL	0.0047	0.00943	ug/L		<MDL		0.0047	0.00943	ug/L		<MDL		0.0047	0.00943	ug/L		<MDL		0.0047	0.00943	ug/L		<MDL		0.0047	0.00943	ug/L						
Methoxychlor		<MDL	0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L						
Toxaphene		<MDL	0.047	0.0943	ug/L		<MDL		0.047	0.0943	ug/L		<MDL		0.047	0.0943	ug/L		<MDL		0.047	0.0943	ug/L		<MDL		0.047	0.0943	ug/L						
M=OR EPA 3520C/8270C (7-3-04-001)																																			
Chlorpyrifos		<MDL	0.032	0.0472	ug/L		<MDL		0.032	0.0472	ug/L		<MDL		0.032	0.0472	ug/L		<MDL		0.032	0.0472	ug/L		<MDL		0.032	0.0472	ug/L						
Diazinon		<MDL	0.041	0.0472	ug/L		<MDL		0.041	0.0472	ug/L		<MDL		0.041	0.0472	ug/L		<MDL		0.041	0.0472	ug/L		<MDL		0.041	0.0472	ug/L						
Disulfoton		<MDL	0.025	0.0472	ug/L		<MDL		0.025	0.0472	ug/L		<MDL		0.025	0.0472	ug/L		<MDL		0.025	0.0472	ug/L		<MDL		0.025	0.0472	ug/L						
Malathion		<MDL	0.045	0.0472	ug/L		<MDL		0.045	0.0472	ug/L		<MDL		0.045	0.0472	ug/L		<MDL		0.045	0.0472	ug/L		<MDL		0.045	0.0472	ug/L						
Parathion-Ethyl		<MDL	0.042	0.0472	ug/L		<MDL		0.042	0.0472	ug/L		<MDL		0.042	0.0472	ug/L		<MDL		0.042	0.0472	ug/L		<MDL		0.042	0.0472	ug/L						
Parathion-Methyl		<MDL	0.034	0.0472	ug/L		<MDL		0.034	0.0472	ug/L		<MDL		0.034	0.0472	ug/L		<MDL		0.034	0.0472	ug/L		<MDL		0.034	0.0472	ug/L						
Phorate		<MDL	0.031	0.0472	ug/L		<MDL		0.031	0.0472	ug/L		<MDL		0.031	0.0472	ug/L		<MDL		0.031	0.0472	ug/L		<MDL		0.031	0.0472	ug/L						
M=OR EPA 3520C/8270C LVI 7-3-01-004																																			
1,2,4-Trichlorobenzene		<MDL	0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L						
1,2-Dichlorobenzene		<MDL	0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L						
1,3-Dichlorobenzene		<MDL	0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L						
1,4-Dichlorobenzene		<MDL	0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L						
2,4,5-Trichlorophenol		<MDL	0.12	0.236	ug/L		<MDL		0.12	0.236	ug/L		<MDL		0.12	0.236	ug/L		<MDL		0.12	0.236	ug/L		<MDL		0.12	0.236	ug/L						
2,4,6-Trichlorophenol		<MDL	0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L						
2,4-Dichlorophenol		<MDL	0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L						
2,4-Dimethylphenol		<MDL	1.4	4.72	ug/L		<MDL		1.4	4.72	ug/L		<MDL		1.4	4.72	ug/L		<MDL		1.4	4.72	ug/L		<MDL		1.4	4.72	ug/L						
2,4-Dinitrophenol		<MDL	0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L						
2,4-Dinitrotoluene		<MDL	0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L						
2,6-Dinitrotoluene		<MDL	0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L						
2-Chloronaphthalene		<MDL	0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L						
2-Chlorophenol		<MDL	0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L		<MDL		0.094	0.236	ug/L						
2-Methylnaphthalene		<MDL	0.094	0.472	ug/L		<MDL		0.094	0.472	ug/L		<MDL		0.094	0.472	ug/L		<MDL		0.094	0.472	ug/L		<MDL		0.094	0.472	ug/L						
2-Methylphenol		<MDL	0.24	2.36	ug/L		<MDL		0.24	2.36	ug/L		<MDL		0.24	2.36	ug/L		<MDL		0.24	2.36	ug/L		<MDL		0.24	2.36	ug/L						
2-Nitroaniline		<MDL	0.094	0.189	ug/L		<MDL		0.094	0.189	ug/L		<MDL		0.094	0.189	ug/L		<MDL		0.094	0.189	ug/L		<MDL		0.094	0.189	ug/L						
2-Nitrophenol		<MDL	0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L		<MDL		0.047	0.236	ug/L						
3,3'-Dichlorobenzidine		<MDL	0.71	4.72	ug/L		<MDL		0.71	4.72	ug/L		<MDL		0.71	4.72	ug/L		<MDL		0.71	4.72	ug/L		<MDL		0.71	4.72	ug/L						
3-Nitroaniline		<MDL	0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L						
4,6-Dinitro-O-Cresol		<MDL	0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L		<MDL		0.94	2.36	ug/L						
4-Bromophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L						
4-Chloro-3-Methylphenol		<MDL	0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L						
4-Chloroaniline		<MDL	0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L		<MDL		0.24	0.472	ug/L						
4-Chlorophenyl Phenyl Ether		<MDL	0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L						
4-Methylphenol		<MDL	0.24	1.18	ug/L		<MDL		0.24	1.18	ug/L		<MDL		0.24	1.18	ug/L		<MDL		0.24	1.18	ug/L		<MDL		0.24	1.18	ug/L						
4-Nitroaniline		<MDL	0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L		<MDL		0.47	1.18	ug/L						
4-Nitrophenol		<MDL	0.47	2.36	ug/L		<MDL		0.47	2.36	ug/L		<MDL		0.47	2.36	ug/L		<MDL		0.47	2.36	ug/L		<MDL		0.47	2.36	ug/L						
Acenaphthene		<MDL	0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L						
Acenaphthylene		<MDL	0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L						
Anthracene		<MDL	0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L		<MDL		0.0094	0.0472	ug/L						
Benzo(a)anthracene		<MDL	0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L		<MDL		0.024	0.0472	ug/L						
Benzo(a)pyrene		<MDL	0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L						
Benzo(b)fluoranthene		<MDL	0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L						
Benzo(g,h,i)perylene		<MDL	0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L		<MDL		0.047	0.118	ug/L						
Benzo(k)fluoranthene		<MDL	0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L						
Benzyl Butyl Phthalate		0.016	<RDL,B	0.0094	0.0236	ug/L		0.015		<RDL,B	0.0094	0.0236	ug/L		0.015		<RDL,B	0.0094	0.0236	ug/L		0.015		<RDL,B	0.0094	0.0236	ug/L		0.015		<RDL,B	0.0094	0.0236	ug/L	
Bis(2-Chloroethoxy)Methane		<MDL	0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L						
Bis(2-Chloroethyl)Ether		<MDL	0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L						
Bis(2-Chloroisopropyl)Ether		<MDL	0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L		<MDL		0.0094	0.0236	ug/L						
Bis(2-ethylhexyl)adipate		0.028	<RDL,B	0.0094	0.0943	ug/L		0.034		<RDL,B	0.0094																								

PROJECT: 423557						Locator: SNOQ539CS Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-3 Matrix: FRESH WTR % Solids:						Locator: SNOQ539CS Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-3 Matrix: FILTER WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-4 Matrix: FRESH WTR % Solids:						Locator: TOLT569D2 Descrip: CARNATION AREA Sampled: Dec 01, 2003 Lab ID: L30353-4 Matrix: FILTER WTR % Solids:						Locator: BLANK1 Descrip: Blank1 Sampled: Dec 01, 2003 Lab ID: L30353-5 Matrix: BLANK WTR % Solids:						
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units						
			- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis			
Chrysene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L	
Dibenzo(a,h)anthracene		<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L			<MDL	0.047	0.118	ug/L	
Dibenzofuran		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Diethyl Phthalate	0.0395	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			0.0368	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Dimethyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L	
Di-N-Butyl Phthalate	0.0984	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			0.0885	B	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L
Di-N-Octyl Phthalate		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L	
Estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Estrone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Ethynyl estradiol		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Fluoranthene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Fluorene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Hexachlorobenzene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L	
Hexachlorobutadiene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L	
Hexachloroethane		<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L			<MDL	0.024	0.118	ug/L	
Indeno(1,2,3-Cd)Pyrene		<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L			<MDL	0.047	0.236	ug/L	
Isophorone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Methyltestosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Naphthalene		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L	
Nitrobenzene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
N-Nitrosodimethylamine		<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L			<MDL	0.024	0.0472	ug/L	
N-Nitrosodi-N-Propylamine		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L	
N-Nitrosodiphenylamine		<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L			<MDL	0.24	1.18	ug/L	
Pentachlorophenol		<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L			<MDL	0.12	0.236	ug/L	
Phenanthrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Phenol		<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L			<MDL	0.094	0.189	ug/L	
Progesterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Pyrene		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Testosterone		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
Total 4-Nonylphenol		<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L			<MDL	0.047	0.0943	ug/L	
Vinclozolin		<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L			<MDL	0.0094	0.0236	ug/L	
M=OR SW-846 8151 GCMS MODIFIED																																				
2,4,5-T		<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L			<MDL	0.016	0.08	ug/L	
2,4,5-TP (Silvex)		<MDL	0.041	0.12	ug/L			<MDL	0.041	0.12	ug/L			<MDL	0.041	0.12	ug/L			<MDL	0.041	0.12	ug/L			<MDL	0.041	0.12	ug/L			<MDL	0.041	0.12	ug/L	
2,4-D		<MDL	0.015	0.08	ug/L			<MDL	0.015	0.08	ug/L			<MDL	0.015	0.08	ug/L			<MDL	0.015	0.08	ug/L			<MDL	0.015	0.08	ug/L			<MDL	0.015	0.08	ug/L	
2,4-DB		<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L	
Dalapon		<MDL	0.021	0.08	ug/L			<MDL	0.021	0.08	ug/L			<MDL	0.021	0.08	ug/L			<MDL	0.021	0.08	ug/L			<MDL	0.021	0.08	ug/L			<MDL	0.021	0.08	ug/L	
Dicamba		<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L			<MDL	0.03	0.08	ug/L	
Dichloroprop		<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L			<MDL	0.024	0.08	ug/L	
Dinoseb		<MDL	0.042	0.12	ug/L			<MDL	0.042	0.12	ug/L			<MDL	0.042	0.12	ug/L			<MDL	0.042	0.12	ug/L			<MDL	0.042	0.12	ug/L			<MDL	0.042	0.12	ug/L	
MCPA		<MDL	0.029	0.12	ug/L			<MDL	0.029	0.12	ug/L			<MDL	0.029	0.12	ug/L			<MDL	0.029	0.12	ug/L			<MDL	0.029	0.12	ug/L			<MDL	0.029	0.12	ug/L	
MCPP		<MDL	0.013	0.08	ug/L			<MDL	0.013	0.08	ug/L			<MDL	0.013	0.08	ug/L			<MDL	0.013	0.08	ug/L			<MDL	0.013	0.08	ug/L			<MDL	0.013	0.08	ug/L	

PROJECT: 423557

Locator: TOLT569D2  
 Descrp: CARNATION AREA  
 Sampled: Jan 26, 2004  
 Lab ID: L30746-1  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ569CZ  
 Descrp: CARNATION AREA  
 Sampled: Jan 26, 2004  
 Lab ID: L30746-2  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ539CS  
 Descrp: CARNATION AREA  
 Sampled: Jan 26, 2004  
 Lab ID: L30746-3  
 Matrix: FRESH WTR  
 % Solids:

Locator: SNOQ539CS  
 Descrp: CARNATION AREA  
 Sampled: Jan 26, 2004  
 Lab ID: L30746-4  
 Matrix: FRESH WTR  
 % Solids:

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis					- Wet Weight Basis		
<b>COMBINED LABS</b>																				
<b>M=CV EPA446.0 (03-02-002S-003)</b>																				
Chlorophyll-A		<MDL	0.5	1	ug/L		<MDL	0.51	1.01	ug/L		<MDL	0.5	1	ug/L		<MDL	1	2	ug/L
Phaeophytin		<MDL	1	2	ug/L		<MDL	1	2.02	ug/L		<MDL	1	2	ug/L		<MDL	2	4	ug/L
<b>M=CV SM2130-B (03-01-011-003)</b>																				
Turbidity	14.3		0.5	2	NTU	4.07		0.5	2	NTU	6.41		0.5	2	NTU	6.12		0.5	2	NTU
<b>M=CV SM2320-B (03-03-001-003)</b>																				
Alkalinity	16		1	10	mg CaCO3/L	13.3		1	10	mg CaCO3/L	14		1	10	mg CaCO3/L	13.9		1	10	mg CaCO3/L
<b>M=CV SM2540-D (03-01-009-002)</b>																				
Total Suspended Solids	20.8		1	2	mg/L	3.8		0.5	1	mg/L	7.3		0.5	1	mg/L	7		0.5	1	mg/L
<b>M=CV SM4500-N-C (03-03-013-001)</b>																				
Total Nitrogen	0.429		0.05	0.1	mg/L	0.421		0.05	0.1	mg/L	0.41		0.05	0.1	mg/L	0.424		0.05	0.1	mg/L
<b>M=CV SM4500-NH3-G (03-03-012-002)</b>																				
Ammonia Nitrogen		<MDL	0.01	0.02	mg/L	0.013	<RDL	0.01	0.02	mg/L		<MDL	0.01	0.02	mg/L		<MDL	0.01	0.02	mg/L
<b>M=CV SM4500-NO3-F (03-03-012-002)</b>																				
Nitrite + Nitrate Nitrogen	0.387		0.02	0.04	mg/L	0.36		0.02	0.04	mg/L	0.335		0.02	0.04	mg/L	0.34		0.02	0.04	mg/L
<b>M=CV SM4500-P-B,FMOD(03-03-013-001)</b>																				
Total Phosphorus	0.0118		0.005	0.01	mg/L	0.0115		0.005	0.01	mg/L	0.0109		0.005	0.01	mg/L	0.0135		0.005	0.01	mg/L
<b>M=CV SM4500-P-F (03-03-012-002)</b>																				
Ortho Phosphorus	0.0123		0.002	0.005	mg/L	0.0049	<RDL	0.002	0.005	mg/L	0.0043	<RDL	0.002	0.005	mg/L	0.0038	<RDL	0.002	0.005	mg/L
<b>M=CV SM5310-B (03-04-001-003)</b>																				
Dissolved Organic Carbon	2.76		0.5	1	mg/L	2.86		0.5	1	mg/L	2.93		0.5	1	mg/L	2.94		0.5	1	mg/L
Total Organic Carbon	2.61		0.5	1	mg/L	2.91		0.5	1	mg/L	2.96		0.5	1	mg/L	3.21		0.5	1	mg/L
<b>M=CV WHITLEDGE 1981 (03-03-012-002)</b>																				
Silica	8.38		0.05	0.1	mg/L	7.53		0.05	0.1	mg/L	7.87		0.05	0.1	mg/L	7.83		0.05	0.1	mg/L
<b>M=ES NONE</b>																				
Conductivity, Field	40.2				umhos/cm	36				umhos/cm	37				umhos/cm	37.3				umhos/cm
Dissolved Oxygen, Field	12.7				mg/L	12				mg/L	12.9				mg/L	12.5				mg/L
Field Personnel	JP				none	JP				none	JP				none	JP				none
pH, Field	6.7				pH	6.3				pH	6.7				pH	6.7				pH
Sample Function	S				none	S				none	S				none	FREP@L30746-3				none
Sample Start Time	1040				hr	1025				hr	1110				hr	1115				hr
Sample Temperature, Field	4.9				deg C	4.4				deg C	4.5				deg C	4.5				deg C
<b>M=MC METRO MC SOP 6.5.1</b>																				
Escherichia coli	3				CFU/100ml	5				CFU/100ml	6				CFU/100ml	7				CFU/100ml
<b>M=MC SM-9222 D ed.17</b>																				
Fecal Coliform	6				CFU/100ml	4				CFU/100ml	9				CFU/100ml	5				CFU/100ml

## Appendix C.

# Data Quality Assurance Reports

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TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: July 2, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: February 2003**

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On February 24, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L27308-1 through L27308-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L27308-1	L27308-2	L27308-3	L27308-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventionals Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed our internal QA/QC checks for accuracy and completeness and may be used without qualification. If I can be of assistance or if you have any questions regarding data package #10964, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: July 8, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: March 2003**

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On March 31, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L27808-1 through L27808-4. The four samples were analyzed within acceptable holding times and all parameters except for the herbicides were analyzed at the King County Environmental Laboratory. Herbicides were subcontracted to STL Seattle for analysis.

**Sample Number and Locators:**

Sample Number	L27808-1	L27808-2	L27808-3	L27808-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	SNOQ569CZ

**Parameters:**

Conventional	Microbiology	Field	Trace Metals
Ammonia Nitrogen	Escherichia coli	Field Personnel	Arsenic*
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field	Cadmium*
Orthophosphate Phosphorus		Conductivity, Field	Chromium*
Silica Silicate	<b>Trace Organics</b>	Dissolved Oxygen, Field	Copper*
Total Nitrogen	BN-LVI	Sample Temperature, Field	Lead*
Total Phosphorus	A-LVI	Sample Start Time	Nickel*
Total Suspended Solids	Chlorinated Pesticides	Sample Function	Zinc*
Alkalinity	PCBs		Mercury*
Chlorophyll a	Organophosphorus Pesticides	<b>Aquatic Toxicology</b>	Aluminum*
Phaeophytin a	Chlorinated Herbicides	Ethinylestradiol - ELISA	Iron*
Turbidity	EDC-LVI	Estradiol-ELISA	Calcium*
Total Organic Carbon (TOC)			Magnesium*
Dissolved Organic Carbon (DOC)			Hardness
			<b>*Total and Dissolved</b>



## **ANALYSIS**

### **Conventionals:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Microbiology:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Field:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Trace Metals:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Trace Organics:**

**EDC-LVI:** The MS/MSD recoveries for Bisphenol A were outside the 50% - 150% recovery limits at 48% and 43% respectively. These analyses passed all other QC control limits and may be used without further qualification.

**CLPESTPCB:** There were no anomalies associated with the preparation and analysis of these samples.

**OPPEST-SHORT:** There were no anomalies associated with the preparation and analysis of these samples.

**A-LVI:** The SB/MS/MSD % recoveries were all outside of the QC limits for 4-chloro-3-methylphenol and 4-nitrophenol. Because the recoveries were high and neither compound was found in the samples, there are no negative consequences of the data. The analysis passed all other QC limits and may be used without further qualification.

**BN-LVI:** The method blank contained four phthalates above the MDL. These compounds were qualified with the "B" flag when found in samples at less than 5 times the method blank concentration.

The SB/MS/MSD % recoveries were all outside the QC limits for 2,4-dinitrotoluene. Because the recoveries were high and this compound was not found in any of the samples there are no negative consequences of the data.

Bis(2-ethylhexyl) phthalate was flagged with the "G" qualifier for all samples because this compound was detected outside the 80-120% limits for the continuing calibration standard. This compound may be biased low.

**HERBICIDES:** Herbicide samples were subcontracted to STL Seattle. One extra sample bottle was submitted to STL Seattle for QC purposes. Due to volume limitations, no matrix spike duplicate was performed. In future sampling operations, extra sample volumes will be collected for complete QC needs.

These analyses passed all other QC control limits and may be used without further qualification.

### **Aquatic Toxicology:**

The Estradiol and Ethynylestradiol analyses by ELISA will be sent out under a separate report.

If I can be of assistance or if you have any questions regarding data package #11011, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: July 2, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: April 2003**

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On April 15, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L27976-1 through L27976-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L27976-1	L27976-2	L27976-3	L27976-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventionals Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed our internal QA/QC checks for accuracy and completeness and may be used without qualification. If I can be of assistance or if you have any questions regarding data package #11021, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: July 2, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: May 2003**

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On May 12, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L28229-1 through L28229-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L28229-1	L28229-2	L28229-3	L28229-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	SNOQ569CZ

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventionals Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed our internal QA/QC checks for accuracy and completeness and may be used without qualification. If I can be of assistance or if you have any questions regarding data package #11042, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
 FROM: Ben Budka, King County Laboratory Project Manager  
 DATE: August 26, 2003  
 SUBJECT: **Carnation Treatment Plant Water Quality Data Report: June 2003**

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On June 16, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L28625-1 through L28625-4. In addition, an atmosphere blank sample was collected during this event for Trace Metals analysis. The sample number for the atmosphere blank is L28625-5. The samples were analyzed within acceptable holding times and all parameters, except herbicides, were analyzed at the King County Environmental Laboratory. The herbicides were subcontracted to STL Tacoma for analysis.

**Sample Number and Locators:**

Sample Number	L28625-1	L28625-2	L28625-3	L28625-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field	Trace Metals
Ammonia Nitrogen	Escherichia coli	Field Personnel	Arsenic*
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field	Cadmium*
Orthophosphate Phosphorus		Conductivity, Field	Chromium*
Silica Silicate	<b>Trace Organics</b>	Dissolved Oxygen, Field	Copper*
Total Nitrogen	BN-LVI	Sample Temperature, Field	Lead*
Total Phosphorus	A-LVI	Sample Start Time	Nickel*
Total Suspended Solids	Chlorinated Pesticides	Sample Function	Zinc*
Alkalinity	PCBs		Mercury*
Chlorophyll a	Organophosphorus Pesticides	<b>Aquatic Toxicology</b>	Aluminum*
Phaeophytin a	Chlorinated Herbicides	Ethinylestradiol - ELISA	Iron*
Turbidity	EDC-LVI	Estradiol-ELISA	Calcium*
Total Organic Carbon (TOC)			Magnesium*
Dissolved Organic Carbon (DOC)			Hardness
			<b>*Total and Dissolved</b>

## **ANALYSIS**

### **Conventionals:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Microbiology:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Field:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Trace Metals:**

The pre-filter blank for dissolved Mercury samples L28625-(1-4) contained Mercury at a concentration above the 5 ng/L MDL equal to 5.8 ng/L. Any samples above the MDL and less than 10 times the contamination were flagged with a "**B**" qualifier.

### **Trace Organics:**

**EDC-LVI:** The method blank contained low levels of total 4-nonylphenol, bisphenol A, and bis(2-ethylhexyl)adipate. These compounds were qualified with a "**B**" flag when found in any sample within 10x the amount found in the method blank.

The SB recoveries for estradiol and ethynyl estradiol were outside the 50-150% recovery limits at 42% and 46% respectively. These compounds were detected within the recovery limits for both the MS and MSD. These analyses passed all other QC control limits and may be used without further qualification.

**CLPESTPCB:** Gamma-BHC (lindane) was outside the recovery limits in the SB and MSD but within the limits for the MS. At least one of two surrogates was within QC control limits for all samples.

These analyses passed all other QC control limits and may be used without qualification.

**OPPEST-SHORT:** There were no anomalies associated with the preparation and analysis of these samples.

**A-LVI:** Phenol was detected at a low level in the method blank. This compound was qualified with a "**B**" flag when found in any sample within 10x the amount found in the method blank.

The SB/MS/MSD %recoveries were all outside the QC Control limits for 4-chloro-3-methylphenol and 4-nitrophenol. All of the recoveries were high and neither compound was found in any of the samples.

These analyses passed all other QC control limits and may be used without further qualification.

**BN-LVI:** The method blank contained four phthalates above the MDL. These compounds were qualified with "**B**" flags when found in the samples at less than 10x the method blank concentration.

The MSD %recoveries were outside the QC Control limits for 2,4-dinitrotoluene and 1,4-dichlorobenzene. The recoveries for these compounds were within the limits for the SB and MS. Because the recoveries were high in the MSD and these compounds were not found in any of the samples, there are no negative consequences on the data.

Any compound detected whose percent difference was greater than 120% in the continuing calibration was qualified with an "**L**" flag. Any compound detected whose percent difference

was less than 80% but equal to or greater than 50% in the continuing calibration was qualified with a "**G**" flag. Compounds that were detected at levels below the lowest point on the calibration curve were qualified with an "**E**" flag.

These analyses passed all other QC control limits and may be used without further qualification.

**HERBICIDES:** This semi-volatile organic pollutant analysis was performed by method SW-846 8151A using GC/MS modified techniques by Severn Trent Laboratory in Tacoma.

Dinoseb percent recoveries and RPD were outside their control limits in the MS/MSD. They cited matrix interference as a possible cause because the SB/SBD percent recoveries and RPD value were within limits.

These analyses passed all other QC control limits and may be used without qualification.

**Aquatic Toxicology:**

The Estradiol and Ethynylestradiol analyses by ELISA will be sent out under a separate report.

If I can be of assistance or if you have any questions regarding data package #11092, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: August 26, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: July 2003**

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On July 14, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L28887-1 through L28887-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L28887-1	L28887-2	L28887-3	L28887-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventional Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed our internal QA/QC checks for accuracy and completeness and may be used without qualification. If I can be of assistance or if you have any questions regarding data package #11110, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: September 12, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: August 2003**

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On August 11, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L29234-1 through L29234-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L29234-1	L29234-2	L29234-3	L29234-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventionals Analysis:**

All the samples were received in acceptable containers and sufficient volumes were provided to perform all the analyses required for this project with exception of the aliquots collected in association with the analysis of CHLA/PHEO for samples L29234-1 through -4. The samples were preserved using established protocols and were analyzed within USEPA and King County Environmental Laboratory established holding times.

The aliquots associated with the analysis of CHLA/PHEO for samples L29234-1 through -4 were collected in 250 mL AWM HDPE containers instead of a 1L AWM HDPE containers. The anomaly was documented in a sample receipt record form and no further corrective action was taken. Sample integrity was not compromised, however, the limited volumes did not provide enough to perform a laboratory duplicate for the project and also resulted in higher a CHLA/PHEO reported detection limit for each sample after correction for sample volume used for preparation.



Laboratory Replicates - The laboratory duplicates were within acceptable windows established for each reported parameter with the exception of the relative percent difference (RPD) result associated with the analysis of total phosphorus (TOTP).

The RPD result of 25% associated with the analysis of TOTP for quality control (QC) sample L29234-2 exceeded KCEL's acceptance limit of 20% due to possible inherent variability with low TOTP background in the sample matrix. The qualified RPD result should not have a significant impact on quality of the reported TOTP data for QC sample L29234-2. The reported TOTP value for L29234-2 was consistent with the current set of historical data for the locator (SNOQ569CZ).

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed all other internal QA/QC checks for accuracy and completeness and may be used without qualification. If I can be of assistance or if you have any questions regarding data package #11156, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
 FROM: Ben Budka, King County Laboratory Project Manager  
 DATE: November 17, 2003  
 SUBJECT: **Carnation Treatment Plant Water Quality Data Report: September 2003**

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On September 22, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L29440-1 through L29440-4. In addition, an atmosphere blank sample was collected during this event for Trace Metals analysis. The sample number for the atmosphere blank is L29440-5. The samples were analyzed within acceptable holding times and all parameters, except herbicides, were analyzed at the King County Environmental Laboratory. The herbicides were subcontracted to STL Tacoma for analysis.

#### Sample Number and Locators:

Sample Number	L29440-1	L29440-2	L29440-3	L29440-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	SNOQ569CZ

#### Parameters:

Conventional	Microbiology	Field	Trace Metals
Ammonia Nitrogen	Escherichia coli	Field Personnel	Arsenic*
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field	Cadmium*
Orthophosphate Phosphorus		Conductivity, Field	Chromium*
Silica Silicate	<b>Trace Organics</b>	Dissolved Oxygen, Field	Copper*
Total Nitrogen	BN-LVI	Sample Temperature, Field	Lead*
Total Phosphorus	A-LVI	Sample Start Time	Nickel*
Total Suspended Solids	Chlorinated Pesticides	Sample Function	Zinc*
Alkalinity	PCBs		Mercury*
Chlorophyll a	Organophosphorus Pesticides	<b>Aquatic Toxicology</b>	Aluminum*
Phaeophytin a	Chlorinated Herbicides	Ethinylestradiol - ELISA	Iron*
Turbidity	EDC-LVI	Estradiol-ELISA	Calcium*
Total Organic Carbon (TOC)			Magnesium*
Dissolved Organic Carbon (DOC)			Hardness
			<b>*Total and Dissolved</b>

## **ANALYSIS**

### **Conventionals:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Microbiology:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Field:**

There were no anomalies associated with the preparation and analysis of these samples.

### **Trace Metals:**

Blank sample L29440-5 for mercury analysis was not collected in a teflon bottle. Therefore, the sample could not be analyzed on the Low Range. This sample was analyzed on the Mid Range with a detection limit of 50 ppt as opposed to 5 ppt.

The data has passed all internal QA/QC checks and may be used without any qualification.

### **Trace Organics:**

All samples were prepared and analyzed within method stipulated hold times. The extraction technique used for the herbicide analysis was SW-846 3510C (separatory funnel extraction). All other extractions were performed by SW-846 3520C (liquid-liquid extraction).

**EDC-LVI:** The method blank contained low levels of total 4-nonylphenol, bisphenol A, and bis(2-ethylhexyl)adipate. These compounds were qualified with a B flag when found in any sample within 10x the amount found in the method blank.

The SB and MS recoveries for bisphenol A were outside the 50-150% recovery limits. The MS recoveries for total 4-nonylphenol and estrone were also outside the 50-150% recovery limits. All of these compounds were detected within the recovery limits in the MSD so it is difficult to determine if bisphenol A or total 4-nonylphenol may be biased high based upon the high recoveries in the SB and MS. Both of these compounds have proven to be variable, not unlike some of the phthalate compounds found in the BNA analyses. Estrone was not found in any samples.

These analyses passed all other QC control limits and may be used without further qualification.

**CLPESTPCB:** The chlorinated pesticide and PCB analyses for these samples were performed by method EPA 608 using GC dual-ECD techniques. At least one of two surrogates was within QC control limits for all samples and so no corrective action was necessary for any sample.

These analyses passed all other QC control limits and may be used without qualification.

**OPPEST-SHORT:** These analyses passed all QC control limits and may be used without qualification.

**A-LVI:** Phenol was detected at a low level in the method blank. This compound was qualified with a B flag when found in any sample within 10x the amount found in the method blank.

The SB, MS, and MSD % recoveries were outside the QC Control limits for 4-chloro-3-methylphenol. The MS and MSD %recoveries were outside the QC Control limits 4-nitrophenol. The MSD %recovery for pentachlorophenol was outside the QC Control limits.

Because all of these recoveries were high and these compounds were not found in any of the samples, there is no bias for the corresponding sample data.

These analyses passed all other QC control limits and may be used without further qualification.

**BN-LVI:** The method blank contained four phthalates above the MDL. These compounds were qualified with B flags when found in the samples at less than 10x the method blank concentration. Di-n-butyl phthalate was also qualified with a G flag because its %D was <20% in the continuing calibration and values may be biased low.

The SB, MS, and MSD % recoveries were outside the QC Control limits for 2,4-dinitrotoluene. The MS and MSD %recoveries were outside the QC Control limits for recoveries for N-nitrosodi-n-propylamine. Because these recoveries were high and these compounds were not found in any of the samples, there is no bias for the corresponding sample data.

These analyses passed all other QC control limits and may be used without further qualification.

**HERBICIDES:** These analyses passed all QC control limits and may be used without qualification.

**Aquatic Toxicology:**

The Estradiol and Ethynylestradiol analyses by ELISA will be sent out under a separate report.

If I can be of assistance or if you have any questions regarding data package #11169, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: November 6, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: October 2003**

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On October 7, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L29859-1 through L29859-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L29859-1	L29859-2	L29859-3	L29859-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventionals Analysis:**

All samples were received in acceptable containers and with sufficient volumes to perform the analyses required for this project. The samples were preserved using established protocols and were analyzed within USEPA and King County Environmental Lab established hold times.

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed all internal QA/QC checks for accuracy and completeness and may be used without qualification. If you have any questions please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: December 1, 2003  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: November 2003**

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On November 3, 2003 a total of four water-quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L29923-1 through L29923-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L29923-1	L29923-2	L29923-3	L29923-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventionals Analysis:**

All samples were received in acceptable containers and with sufficient volumes to perform the analyses required for this project. The samples were preserved using established protocols and were analyzed within USEPA and King County Environmental Lab established hold times.

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed all internal QA/QC checks for accuracy and completeness and may be used without qualification. If you have any questions please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: January 28, 2004  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: December 2003**

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On December 1, 2003 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L30353-1 through L30353-4. In addition, an atmosphere blank sample was collected during this event for Trace Metals analysis. The sample number for the atmosphere blank is L30353-5. The samples were analyzed within acceptable holding times and all parameters except herbicides were analyzed at the King County Environmental Laboratory. The herbicides were subcontracted to STL Tacoma for analysis.

#### **Sample Number and Locators:**

<b>Sample Number</b>	L30353-1	L30353-2	L30353-3	L30353-4 (FREP)
<b>Locator</b>	TOLT569D2	SNOQ569CZ	SNOQ539CS	TOLT569D2

#### **Parameters:**

<b>Conventional</b>	<b>Microbiology</b>	<b>Field</b>	<b>Trace Metals</b>
Ammonia Nitrogen	Escherichia coli	Field Personnel	Arsenic*
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field	Cadmium*
Orthophosphate Phosphorus		Conductivity, Field	Chromium*
Silica Silicate	<b>Trace Organics</b>	Dissolved Oxygen, Field	Copper*
Total Nitrogen	BN-LVI	Sample Temperature, Field	Lead*
Total Phosphorus	A-LVI	Sample Start Time	Nickel*
Total Suspended Solids	Chlorinated Pesticides	Sample Function	Zinc*
Alkalinity	PCBs		Mercury*
Chlorophyll a	Organophosphorus Pesticides	<b>Aquatic Toxicology</b>	Aluminum*
Phaeophytin a	Chlorinated Herbicides	Ethinylestradiol - ELISA	Iron*
Turbidity	EDC-LVI	Estradiol-ELISA	Calcium*
Total Organic Carbon (TOC)			Magnesium*
Dissolved Organic Carbon (DOC)			Hardness
			<b>*Total and Dissolved</b>

## **ANALYSIS**

### **Conventionals:**

The reported SB recovery of 71% associated with TOTP analysis was outside the acceptance window of 80 – 120% due to suspected pipetting error during sample preparation. Re-analysis of the SB verified the initial result. The LCS result of 93% associated with TOTP analysis was within acceptance limits, which indicated that preparation and analysis were in control for this particular preparation batch, C031205A. The MS result of 89% for TOTP was also within the acceptance limits, which indicated that the spiking solution and technique were also in control. The qualified SB recovery of 71% should not impact the quality of the data, therefore, the reported TOTP results were reported without qualification for preparation batch C031205A.

In addition, TOTN was also analyzed in conjunction with TOTP from the same preparation batch, C031205A, and the SB recovery of 82% associated with TOTN was within the acceptance limits of 80 – 120% but on the low side. The low SB recovery of 82% associated with TOTN also indicated a pipetting error as the probable cause of the low SB recoveries from this particular batch. Routine analysis for both TOTP and TOTN normally yielded SB recoveries that were 20% higher than the SB recoveries reported for this particular preparation batch. A second preparation batch, C031217A, which was also analyzed and reported with this batch had an SB recovery of 92% associated with TOTP, which indicated that the spiking solution used for both batches was in control.

There were no other anomalies associated with the preparation and analysis of these samples.

The data has passed all other internal QA/QC checks for accuracy and completion and may be used without qualification.

### **Microbiology:**

There were no anomalies associated with the preparation and analysis of these samples. The data has passed all internal QA/QC checks for accuracy and completion and may be used without qualification.

### **Field:**

There were no anomalies associated with the preparation and analysis of these samples. The data has passed all internal QA/QC checks for accuracy and completion and may be used without qualification.

### **Trace Metals:**

There were no anomalies associated with the preparation and analysis of these samples. The data has passed all internal QA/QC checks for accuracy and completion and may be used without qualification.

### **Trace Organics:**

**EDC-LVI:** The method blank contained low levels of bisphenol A and bis(2-ethylhexyl)adipate. These compounds were qualified with a “B” flag when found in any sample within 10x the amount found in the method blank.

The SB and MSD recoveries for bis(2-ethylhexyl)adipate were outside the 50-150% recovery limits. The MSD recovery for total 4-nonylphenol was also outside the 50-150% recovery limits. All of these compounds were detected within the recovery limits in the MS so it is difficult to determine if any of these compounds may be biased high based upon the high recoveries in the SB and MSD. Both of these compounds have proven to be variable, not unlike some of the phthalate compounds found in the BNA analyses. The surrogate 2,4,6-tribromophenol was recovered at slightly less than the 50% limit in the MB and SB.



These analyses passed all other QC control limits and may be used without further qualification.

**CLPESTPCB:** These analyses passed all QC control limits and may be used without qualification.

**OPPEST-SHORT:** Methyl and ethyl parathions had percent MS/MSD percent recoveries outside the QC limits. Because all of these recoveries were high and these compounds were not found in any of the samples, there is no bias for the corresponding sample data.

These analyses passed all other QC control limits and may be used without qualification.

**A-LVI:** The MS and MSD percent recoveries were outside the QC Control limits for 4-chloro-3-methylphenol. Because all of these recoveries were high and these compounds were not found in any of the samples, there is no bias for the corresponding sample data.

These analyses passed all other QC control limits and may be used without qualification.

**BN-LVI:** The method blank contained four phthalates above the MDL. These compounds were qualified with "B" flags when found in the samples at less than 10x the method blank concentration.

The SB, MS and MSD percent recoveries were outside the QC Control limits for 2,4-dinitrotoluene. Because these recoveries were high and this compound were not found in any of the samples, there is no bias for the corresponding sample data.

These analyses passed all other QC control limits and may be used without qualification.

**HERBICIDES:** This semi-volatile organic pollutant analysis was performed by method SW-846 8151A using GC/MS modified techniques by Severn Trent Laboratory in Tacoma.

These analyses passed all QC control limits and may be used without qualification.

#### **Aquatic Toxicology:**

The Estradiol and Ethynylestradiol analyses by ELISA will be sent out under a separate report.

If I can be of assistance or if you have any questions regarding data package **#11231**, please give me a call at 684-2328.



TO: Dean Wilson, Carnation Treatment Plant Water Quality Planner  
FROM: Ben Budka, King County Laboratory Project Manager  
DATE: February 19, 2004  
SUBJECT: **Carnation Treatment Plant Water Quality Data Report: January 2004**

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On January 26, 2004 four water quality samples were collected from the Tolt and Snoqualmie Rivers. The samples were collected by grab, placed in an ice-filled cooler, and transported to the King County Environmental Laboratory.

The samples were logged in with the unique sample number of L30746-1 through L30746-4. The four samples were analyzed within acceptable holding times and all parameters were analyzed at the King County Environmental Laboratory.

**Sample Number and Locators:**

Sample Number	L30746-1	L30746-2	L30746-3	L30746-4 (FREP)
Locator	TOLT569D2	SNOQ569CZ	SNOQ539CS	SNOQ539CS

**Parameters:**

Conventional	Microbiology	Field
Ammonia Nitrogen	Escherichia coli	Field Personnel
Nitrate + Nitrite Nitrogen	Fecal Coliform	PH, Field
Orthophosphate Phosphorus		Conductivity, Field
Silica Silicate		Dissolved Oxygen, Field
Total Nitrogen		Sample Temperature, Field
Total Phosphorus		Sample Start Time
Total Suspended Solids		Sample Function
Alkalinity		
Chlorophyll a		
Phaeophytin a		
Turbidity		
Total Organic Carbon (TOC)		
Dissolved Organic Carbon (DOC)		

**Conventional Analysis:**

All samples were received in acceptable containers and with sufficient volumes to perform the analyses required for this project. The samples were preserved using established protocols and were analyzed within USEPA and King County Environmental Lab established hold times.

There were no anomalies associated with the preparation and analysis of these samples.

**Microbiology Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

**Field Analysis:**

There were no anomalies associated with the preparation and analysis of these samples.

The data have passed all internal QA/QC checks for accuracy and completeness and may be used without qualification. If you have any questions please give me a call at 684-2328.